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The undersigned, acting as a Committee of the Graduate School, have read the accompanying thesis submitted by ~~Joseph Earl Cummings~~ for the degree of ~~Master of Arts~~. They approve it as a thesis meeting the requirements of the Graduate School of the University of Minnesota, and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts.

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A Study of the Present Status of Commission
Regulation of Public Utilities, in the
United States, with Especial Attention
to the Cost of Regulation

A Thesis submitted to the
Faculty of the Graduate School of the
University of Minnesota

by

Joseph Earl Cummings

In partial fulfillment of the requirements
for the degree of
Master of Arts

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PREFACE.

It has been the aim of this investigation to first summarize as concisely as possible the prevailing conditions, among all the state commissions and the Interstate Commerce Commission, in regard to organization, powers, and activities. The results of this attempt are presented in the first three chapters. The purpose has been to get a broad general view of prevailing conditions and tendencies, and consequently the presentation of multitudinous details and exceptions has been avoided.

With this information as a back ground the remaining five chapters have been devoted to a study of the relation between the cost of regulation and the results accomplished.

The collection of material relating to commission expenditures for the period 1907 to 1914 inclusive, was found to be an unexpectedly difficult task. First, all the available official reports of the regulative bodies were searched. The Commissions which included an account of their expenditures in these reports were the exceptions, not the rule. Next, available official reports by state treasurers, comptrollers, and auditors were used in an attempt to learn the amount each commission was spending annually. By these methods, after searching approximately four hundred official reports, it was found that less than fifty percent of the statistics required were complete.

As a last resort personal letters were written to the state auditors, of each of the twenty-four states for which our

statistics were incomplete, requesting them to supply the required information. Very courteous and useful replies were received from twelve of these officials. By the time it became necessary to bring the work to a close, statistics for twelve, out of forty-five states, which support commissions, were still not available.

An analysis of the probable accuracy of the figures presented is given at the beginning of chapter four.

Statutes and constitutional provisions relating to commissions are usually to be found in the annual reports of the regulative bodies. (a) Beside these, reprints as listed in the bibliography were made use of.

In discussing commission expenditure for the State of New York, only the expense of the Second District, or "Up-state" commission has been considered. A very large proportion of the expenditure of the First District Commission is entailed through engineering expense in subway construction and other work peculiar to this body. I do not consider that the work of the First District Commission can be considered as in any way typical of commission work in this country at present, or as it is likely to be in the immediate future.

(a) See "Official Reports", Bibliography.

For the constant use of a very comprehensive collection of literature on this subject, as well as much very helpful personal guidance in the preparation of this paper, I am under very deep obligation to Dr. John H. Gray.

CONTENTS.

	Page.
I. Historical and Introductory.	
1. General	1
2. Methods of Controlling Public Utilities	1
(a) Competition	1
(b) Governmental Ownership	5
(c) Legislative	
Regulation	5
(d) Regulation by Commissions	6
(e) Summary	7
II. Organization of Commissions.	
1. Prevalence of State Commission	8
2. States having more than one Regulative Body	8
3. Titles and Jurisdiction of State Commissions	9
4. Selection of Commissioners	
(a) Popular Election versus Appointment	14
5. Length of Term of Commissioners ..	18
6. Qualifications of Commissioners ..	21

III. Field of Commission Work.

	Page
1. "Weak" <u>versus</u> "Strong" Commissions	34
2. Regulation of Rates	26
3. Regulation of Service	39
4. Regulation of Inter-Corporate Relations	32
5. Regulation of Safety Operation . .	34
6. Regulation of Security Issues . .	38
7. Conclusions	40

IV. Commission Expenditures.

1. Analysis of Data as to Accuracy and Scope	41
2. Cost of State Commissions	43
3. Cost of Interstate Commerce Com- mission	46
4. Total Cost of State and Federal Regulation	47

V. Cost of Compliance with Commission Orders.

1. Magnitude	50
2. Should This Be Included in "Cost of Regulation?"	56

VI. Value of Work of Regulative Commissions.

1. General	62
2. Arbitration of Disputes and Preven- tion of Rate Wars	62
3. Prevention of Stock-Watering . . .	65
4. Collection of Data	66
5. Discovery of Increased Taxable Values.	67

	Page
VI. Continued.	
6. Improvement of Service and Safety of Operation	68
7. Removal of Public Utility Compan- ies from Politics	69
8. Reduction of Rates	70
VII. Limitation of Commission Work Through Insufficient Funds	73
VIII. Conclusions	81
 Bibliography	 90

LIST OF TABLES AND GRAPHS

Plate	Page
<p>I. Jurisdiction of State Commissions.....following</p>	9
<p>II. Expenditures by states, 1907 - 1914 inclusive.....following</p>	40
<p>III. Expenditures of State Commissions - estimated versus official data.following</p>	41
<p>IV. Growth of Expenditures - State Commissions.....following</p>	42
<p>V. The growth of total expenditures and of the average per State.....following</p>	44
<p>VI. Interstate Commerce Commission Expenditures.....following</p>	45
<p>VII. Comparison of Growth of State and Feder- al Expenditures for Regulation.</p>	46
<p>VIII. Total Expenditures - Federal and State Commissions.....following</p>	47
<p>IX. Growth of Total Expenditures...following</p>	48

I. HISTORICAL AND INTRODUCTORY.

General.

This is a time of much discussion of the problem of control of public utilities. The ultimate success of the American experiment in democracy probably depends to a large extent upon the development of our ability to organize our industrial life so that our necessarily large business organizations shall serve, instead of control and exploit, the public.

Methods of Control: All the methods used in attempts to control the activities of large commercial organizations, especially those providing the public utilities, fall roughly into three broad classes: (1) By competition; (2) By governmental ownership; (3) By governmental regulation.

Competition: It was long held by the general public and by many trained economists that the way to secure the necessities of life most cheaply and efficiently was by permitting and encouraging unrestrained competition in their production and distribution. This was an attempt to take advantage of economic forces, instead of appealing to the political agencies for a regulative instrument. It seemed very logical and simple that economic forces should work out benign conditions if given unrestricted action. During the period when competition was most respected, from about 1776 to about 1840, the idea of Laissez Faire was the kernel of the prevailing economic philosophy, and Adam Smith was the fount of authority. Two qualities ascribed to Smith and to the philosophy of the period are what

Charles Rist calls "Naturalism" and "Optimism". (a) Smith believed that whatever was "natural" and spontaneous was good. Much of this "optimism" was perhaps caused by the coming of machinery into the industrial life of the time. The beneficent effects of this new agent were over estimated and its detrimental and evil effects were not recognized. I believe that the prevalent idea that Smith was influenced by the industrial revolution is not correct. His great book was published in 1776 and much of it was written long before that time. Thus at the time of writing this work the change had hardly gained enough momentum to affect Smith. Also, Smith was no friend of this industrial movement. He looked upon the industrial phases of life as detrimental and injurious to the human race. But it is impossible to apply the above observations to the followers of Adam Smith. They were undoubtedly confirmed and strengthened in their optimism by the industrial revolution. The world under the influence of these ideas was very optimistic in regard to the benign influence of competition - which was above all "natural" and spontaneous.

As a matter of fact, under the economic conditions of that time there was much less cause to doubt the efficacy of competition than there was at a later period. Large and powerful aggregations of capital did not exist. Industry was in the "individual" and "partnership" stage of organization, and com-

(a) "Histoire Des Doctrines Economiques", Gide and Rist, page 80.

mercial and industrial activity was strongly localized, and for our purposes, most important of all, public utilities were not yet a part of the life of the mass of the people. The world, and especially the United States, was much more rural than urban and, outside of a very few large communities, even the simplest forms of public utilities were not known.

The failure of competition to secure efficiency of service and justice to the public was first made apparent in what have become known as the "natural monopolies." This phase, of course, refers to fields of industry where competition means unnecessary duplication of plant e.g. street and steam railroads, gas distribution, etc.

The city of New York is the standing "horrible example" of the effects of competition in the case of "natural monopolies". "In 1883 there were eight gas light companies in the city, and in the street-railway business conditions were quite similar, competing lines paralleling each other at the distance of a single block." (b) Other classic examples are the facts that at one time a single street in London contained the gas mains of six competing companies, and that a certain small Indiana town had its streets fenced with nine sets of poles carrying wires of various public utilities.

As may be imagined these conditions lead to a poor and expensive service.

(b) Wm. Anderson, Public Service Commissions; Published as Bulletin of University of Minnesota, November, 1913.

Neither the consumers or the companies were profiting by this "cut-throat" competition. The opportunity for large profits through consolidation and monopoly appealed to the companies, and about this time they began bending their efforts to secure legislative permission to consolidate. The rapid springing up of new inventions and processes just at this time also encouraged monopoly and increased profits vastly. The coming into use of the "water-gas" process, about 1884, very materially decreased the cost of production of this fuel but the traditional price was not lowered. There could be no intelligent demand for a lowering of price, because no one knew, or had any way of finding out, what the profits were.

When electricity entered the light and power field, combination was the method used by the established gas companies to protect themselves from what they thought was destructive competition. These numerous mergers did not result in the lowering of the price or bettering of service to the public, but simply in very large profits to the companies furnishing these public necessities.

In spite of investigations and exposures of corruption and poor service under these conditions, the faith in the benign powers of competition died slowly. The public had worshipped too long at the shrine of Laissez Faire to be suddenly persuaded to recant. Promoters and investors with plants for sale kept alive the fallacy of the efficiency of competition. (c)

(c) J. H. Gray Gas Supply of Boston. Quart. Jr. of Ec. Vol. 11 to 13 inc. Also, N. Y. Gas Investigation rep. 1885, page 151 ft. appendix.

Governmental Ownership: The municipal ownership movement which began about 1890 was partly a cause and partly a result of the slowly ebbing faith in competition as a regulative force. It was a result in that it was offered as a substitute for competitive public service. It was a cause in that its propaganda did so much to educate the public to the weakness of the Laissez Faire idea in general and the competitive scheme of public service regulation, in particular.

The thing which perhaps prevented the public ownership idea from sweeping the country at this time was the contemporary exposure of the almost unbelievable corruptions of American city government. People were shocked and astounded and quite lost faith in men who held municipal office. In this state of mind they would hesitate to enlarge the field of municipal activities and thus give a broader and more inviting field for corruption and graft.

Legislative Regulation: During this period attempts were made to use our state legislative bodies for regulative purposes. Charters were very carefully drawn ^{and} full of detailed provisions. The impossibility of securing desired results by these means is very apparent. Charters of this character soon become out of date and their provisions easily nullified and evaded by methods invented by corporation attorneys with quicker brains than those of the legislators who drew up the charters. As a matter of fact many of the charters were actually drawn up by the corporation attorneys. So-called "joker" clauses were very commonly inserted, through the work of corrupt leaders

of state legislatures. Thus in many cases the loop-holes for escape from regulation were provided in the very instrument which the public depended upon for enforcement of regulation.

This cumbersome method of attempted regulation was also obstructed by lack of power of enforcement. The courts of the time were very conservative and very considerate of vested interests and property rights. By the beginning of the twentieth century this method of regulation had little prestige.

Regulation by Commissions: By the middle of the nineteenth century a few states were beginning the Commission experiment. Massachusetts, Vermont, and New York, are among the earlier creators of Commissions.

In 1855 New York created her first railroad commission. This body consisted of three members and had supervisory powers only. It was abolished within two years and the state was without any such organization until 1882. The Railroad Commission created at this date endured until 1907, when it was superseded by the present Public Service Commission. (d)

Massachusetts created a railroad commission in 1869.

These early commissions are only historically interesting - they had practically no economic results. Their powers were purely advisory and they could not enforce any of their suggestions. Taking into consideration the attitude of the railroads, and other public service organizations, toward the public at this time it is easily seen that they could have no motive for even attempting to please the commissions.

(d) Annual Report, First District Public Service Commission, New York, 1907, page 452. fl.

The establishment of the New York and Wisconsin Public Service commissions in 1907 really began the movement for an earnest and consistent attempt at control of public utilities through the supervision of state regulative commissions with broad and enforceable powers.

Summary.

Regulation by unrestrained competition has been tried and found wanting. It still has some advocates but they at present exert only a weak influence.

The attempt to use legislative bodies for purposes of regulating commercial corporations has been found too clumsy and ineffective to be practicable.

The golden age for the public ownership movement was from 1890 to 1907. This movement is far from dead at present - it is only latent. Whether or not it ever revives and again takes the center of the stage will in all probability depend upon the success or failure of the modern Public Service Regulative Commissions.

II. ORGANIZATION OF COMMISSIONS.

Prevalence of State Commissions: At this date there are forty-five states which support one or more commissions for the regulation of public utilities. Three states, Delaware, Utah, and Wyoming, have no state regulative commissions in the public service field. (a)

States having more than one Regulative Body: In three of these jurisdictions we find more than one regulative commission. New York divides this work between two organizations. The First District Commission is confined territorially to the City of New York. The Second District Commission has jurisdiction over the remainder of the state and also regulative powers over some utilities which do business in New York City. It was considered undesirable to give each body complete powers over that portion of railroad, telephone, or telegraph line found within its territorial jurisdiction. In general, the "Up-state" body has to do with these extra municipal utilities, though the First District Commission has some powers over steam road terminals, etc., located within its territorial jurisdiction.

Nevada has a peculiar method of organization. There are technically two commissions: (1) The Railroad Commission, (2) The Public Service Commission. The Railroad Commission is ex-

(a) Data from the Report of the National Civic Federation on Commission Regulation of Public Utilities, 1913, page 65 - 73. Checked and brought up to date from official Annual Reports of the various State Commissions. See bibliography.

officio the Public Service Commission, but it is required that the business of the two Commissions be kept entirely separate.

South Carolina has a salaried Railroad Commission, and also a Public Service Commission on a per diem basis.

Titles and Jurisdiction
of State Commissions:

The present day tendency seems to be toward an enlargement of the field of the state regulative commissions. In 1906 practically all the regulative bodies were concerned exclusively with the railway problem. The one notable exception to this generalization is furnished by the Massachusetts Gas and Electric Light Commission. (b)

Beginning with 1907 the enlargement of powers and field and the transformation from "Railroad" to "Public Utility" or "Public Service" Commissions has been steady and consistent. Today twenty of the forty-eight regulative bodies are either "Public Utility" or "Public Service" Commissions, five are corporation commissions, one is a Railroad and Warehouse Commission, and twenty-two are Railroad Commissions.

The title of the commission does not always give a true idea of the scope and jurisdiction of the bodies' activities. Many "Railroad" commissions have jurisdiction over a number of utilities other than those engaged in transportation. The custom of retaining these excessively delimiting titles is perhaps due to disinclination on the part of the public to change familiar nomenclature, and also to wisdom on the part of authors and sup-

(b) Founded 1885. Had power to enforce its mandates.

PLATE I.

JURISDICTION OF STATE COMMISSIONS.

Transportation, Passengers, Freight, Express	and Telephone and Telegraph	and Gas and Electricity	"All" Public Utilities <u>(f)</u>
Alabama	Florida	(d) Georgia	Arizona
Colorado	Louisiana	Maryland	California
Indiana	Mississippi	Massachusetts	Idaho
Iowa	(c) North Carolina	Michigan	Illinois
(a) Kansas	Oklahoma	(e) New York	Maine
Kentucky	South Carolina	Vermont	Montana
(b) Minnesota	South Dakota		Missouri
Nebraska	Tennessee		New Hampshire
North Dakota			New Jersey
Virginia			Ohio
			Oregon
			Pennsylvania
			Wisconsin
			West Virginia

- (a) Also pipe lines and irrigation.
- (b) Also Warehouses. *Telephones*
- (c) Also Bank and Trust Companies.
- (d) Also Street Railways and Cotton compressing.
- (e) First District Commission
- (f) See definition, page 11.

porters of public utility bills in making their work as inconspicuous as possible. It is frequently possible to extend gradually the jurisdiction of the existing regulative body, where changing the name to include the increased powers of the commission, would be much more alarming than the actual granting of the increased powers.

Plate I, is an analysis of the jurisdiction of the commissions in thirty-nine states. The grouping is into four large classes and makes no pretence of being an exhaustive or minutely accurate classification. It does, however, give an idea of the general condition in regard to the jurisdiction of state commissions at this time.

There are still -- among the thirty-nine states for which we have data -- ten which confine themselves exclusively to the regulation of companies engaged in transportation.

The next logical enlargement of the field of regulation is to include telephone and telegraph service. Next to the transportation of material things, the question of the transportation of intelligence attracts the attention and touches the interest of the public. We find that eight states have added the regulation of telegraph and telephone companies to the duty of their railroad commissions. This gives approximately forty-six per cent of the commissions under consideration who concern themselves only with the affairs of the railway, express, telephone and telegraph companies.

In spite of the rapid development in the efficient trans-

mission of electric energy, the use of electricity and gas is common only in urban communities. It is undoubtedly true that in many localities, communities of a rural nature are supplied with electricity, but the amount of power thus distributed and the number of people thus concerned is still relatively unimportant. In urban localities, however, the furnishing of these services is a matter of rather intense interest for the consuming public. Only twenty-one of these states give their commissioners jurisdiction over companies furnishing these two utilities. This condition is probably due to the disinclination on the part of legislatures to interfere with what are, usually, purely municipal concerns. In grants of power to state regulative bodies there has been a decided tendency to leave the control of exclusively municipal utilities to the cities themselves.

Fifteen states, or thirty-nine plus per cent of the group under consideration have clauses in their legislation granting power to the regulative body to supervise and control to a greater or less extent "all" public utilities. This word has as many definitions as there are legislative acts. No attempt is ever made by the law making body to give it any scientific definition or use. They frankly indicate that the phrase "all public utilities" is simply used as a short description of a miscellaneous group of utilities listed elsewhere. Generally this list includes companies engaged in the furnishing of any services which in that locality and according to local ideas take the nature of so-called "natural" monopolies, or even those which attract attention by their size,

power, or place in the public eye.

For the purposes of this work it will not be necessary to go into this phase of the matter exhaustively. I will simply quote the language of legislatures, in three typical jurisdictions, in their attempt to make clear their use of the phrase "all public utilities":

Wisconsin: This is the legislative definition of a Public Service Company, used by Wisconsin: "Every railroad, street railway, telegraph, telephone, express, freight-line, sleeping car, light, heat, water and power corporation, and all other corporations, excepting towns, villages, and cities, engaged in the business of supplying the public directly or indirectly with light, heat, power or water or in transmitting the telegraph or telephone messages or transporting passengers, freight or express." (c)

California: This is the California legislature's definition of a public utility: "Every private corporation and every individual or association of individuals owning, operating, managing, or controlling any commercial railroad, inter-urban railroad, street railroad, canal, pipe line, plant, or equipment, within this state for the transportation or conveyance of passengers, or express matter, or freight of any kind, including crude oil, or for the transmission of telephones or telegraph messages, or for the production, generation, transmission, delivery, or furnishing of heat, light, water or power, or for the furnishing or storage, or wharf-

(c) Laws 1911 ch. 593, sect. 1753.

age facilities, either directly or indirectly, to and for the public, and every common carrier." (d)

"Every common carrier, pipe line, gas, electrical, telephone, telegraph, and water corporation, wharfinger and warehouseman". (e)

New Jersey: New Jersey defines public utilities as follows: "Every individual, copartnership, association, corporation or joint stock company, their lessees, trustees or receivers, appointed by any court, that now or hereafter may own, operate, manage or control, within the state of New Jersey, any steam railroad, street railway, traction railway, canal, express, subway, pipe line, gas, electric light, heat, power, water, oil, sewer, telephone, telegraph system, plant or equipment for public use, under privileges granted or hereafter to be granted by the state of New Jersey or by any political sub-division thereof". (f).

The difference in the contents of the above lists is very largely due to geographical variation, and to unlikeness in industrial age or development. For obvious reasons, Wisconsin would not include pipe lines as a public utility to be regulated, while California could not omit this utility in attempting to give a complete list of public utilities for regulative purposes.

(d). Constitution art. 12, sect. 23.

(e). Statutes 1911, 1st ex. session. Ch. 14, sec 2

(f) Laws 1911, ch. 195, section 15.

Selection of Commissioners.Appointed:

California
 Colorado
 Connecticut
 Idaho
 Illinois
 Indiana
 Kansas
 Maine
 Maryland
 Massachusetts
 Michigan
 Missouri
 Montana
 Nevada
 New Hampshire
 New Jersey
 New York (a)
 Ohio
 Pennsylvania
 Rhode Island
 South Carolina (b)
 Vermont
 Virginia
 Washington
 Wisconsin
 West Virginia

Elected:

Alabama
 Arizona
 Arkansas
 Florida
 Georgia
 Iowa
 Kentucky
 Louisiana
 Minnesota
 Mississippi
 Nebraska
 New Mexico
 North Carolina
 North Dakota
 Oklahoma
 Oregon
 South Carolina (c)
 South Dakota
 Tennessee
 Texas

- (a) Two commissions.
 (b) Public Service Commission.
 (c) Railroad Commission.

There are forty-five states which have a Regulative Commission or Commissions. Twenty-four secure their commissioners by appointment, usually by the governor with the approval of the state senate or council; nineteen elect by popular vote and one (South Carolina) provides for the appointment of one commission, (The Railroad Commission) and the election of the other (The Public Service Commission).

The question of how to select public officials so that the least-partisan, most efficient and public spirited men may be secured, is a question as old as the attempts at a democratic form of government. The question is yet far from being settled and its satisfactory solution would undoubtedly mean much for the success of such a form of government. The American spirit has been rampantly in favor of popular election of all officials. The idea that any American should be able to appeal to the suffrage of his peers for the privilege of holding any office from the highest to the lowest is a part of our most strongly ingrained tradition. The average citizen still resists the conclusion that he may not be absolutely qualified to fill any office within gift of the people. The idea of the necessity for expert knowledge or technical qualifications is spreading very, very slowly, and meets resistance on every hand. The influence of these ideas still persists in the popular election of even such officials as judges.

The experience of Iowa with the two methods of selecting commissioners is illuminating. Mr. F.H. Dixon is the authority on the history of regulative commissions in this state and he has the following to say: "The law making commissioners elective was

was passed in the spring of 1888. Before that time the commissioners had been appointed by the governor, and their selection had depended in no degree upon their political affiliations. The opponents of the new order predicted that the change would furnish the railroads the opportunity which they sought of going into politics, and so it unfortunately proved. It has resulted in more than one campaign being fought out by the railroad and anti-railroad forces, regardless of the connection of the candidates with one or the other of the great national parties. A commissioner who by his public acts seemed to favor the Granger sentiment as opposed to the railroads, would be obliged, if a candidate for re-election to face the combined forces of the corporations, ably directed from railroad headquarters. At one election handbills and telegrams were sent out along the lines of the road directing the employees to vote for a certain man who was supposed to be friendly to railroad interests. The grain men and large shippers were invited to join the movement. The opposition was strengthened through the multiplication of railroad employees' clubs, formed for no other purpose than to influence railroad legislation.

"Experience has proven conclusively that the election of commissioners by popular vote is dangerous in furnishing inducement for the powerful corporation to make themselves felt politically.

Appointment of commissioners by the governor, with the consent of the Senate or Executive Council should be restored. When this has been done a great step will have been taken toward promoting a feeling of harmony between carriers and shippers, - a spirit indispensable to the satisfactory solution of the railroad question."

(g)

(g) F. H. Dixon, "Railroad Control" page 205 - 6.

This experience of over a generation ago has been repeated many, many, times in the history of various state commissions. The horrible state of corruption of our state legislatures for the decade centering around 1880, is in no small part due to the entrance of large industrial units into our political life, in the attempt, very frequently successful, to secure special privileges and immunities.

At present the best thought undoubtedly favors the selection of most administrative and judicial officials by appointment. Especially is this true in the case where technical qualifications or special training is required. The drift of opinion in favor of appointive commissions is indicated by the fact that the nine jurisdictions which have last legislated on this subject have, without exception provided for appointive commissioners. (h)

Selecting commission officials by appointment does not always secure non-partisan men appointed on the basis of fitness and merit, but it has been found to give much better results than can be secured by popular election with the attendant evils pictured by Dixon.

Numerically the present division between these two methods of selection seems to be about even. A study of the table at the beginning of this section, however, will make apparent that the states that have most efficient and really potent commissions and in general are classed as progressive, will be found classified among those jurisdictions which secure members of regulative commissions by appointment.

(h) Idaho, Illinois, Indiana, Massachusetts, Missouri, Montana, Ohio, Pennsylvania, West Virginia.

Length of Term of
Commissioners :

There are forty-eight commissions, engaged in the regulation of public utilities, distributed among forty-five state jurisdictions. The following table shows the frequency of the various lengths of terms:

<u>Length of Term:</u>	<u>Number of Commissions:</u>
2 years	3
3 years	6
4 years	6
5 years	2
6 years	29
8 years	1
10 years	1

It is gratifying to find that only three commissions have a two-year term of office.

There are only three commissions which have a term of five years. The mode is strongly indicated at six years. There are twenty-nine commissions, or nearly fifty-one per cent of the total which have a six year term for the members.

Two bodies, The West Virginia Public Service Commission, and The Public Service Commission of the Commonwealth of Pennsylvania, have a term longer than six years. In the former the members hold office for eight years and in the latter the term is ten years.

The public service corporations, as a rule are in favor of long terms for members of regulative commissions. Mr. A. J. County, Special Assistant to the President of the Pennsylvania Railroad

Company, has the following to say on the subject: (1)

"Frequent changes in the personnel of the commissions have prevented the members from obtaining that experience with railroad questions which is so essential for the proper performance of their duties *****.

[There is] failure to offer sufficient compensation and tenure of office necessary to attract and keep the ablest men in the government service."

The accusation is common that the public service companies wish long or life terms for the commissions so that these bodies shall be less subject to the public will and less sensitive to contemporary feeling and opinion. This would, of course, give opportunity for powerful corporations to develop more influence over these bodies. The value to large industrial corporations of the conservation^x and independence developed by bodies whose members hold office for life is well illustrated by the position held in their esteem by the Federal Courts. Especially are their efforts directed to maintain, and if possible, increase this atmosphere in the highest court of this system - the United States Supreme Court.

Whatever the motive of public service companies in standing for a long term in the case of members of regulative commissions, I believe their attitude in this instance is consistent with the public good. The work of the commission has now assumed such a nature that its rapid and efficient handling requires experience

(1) Before the Wharton School of Commerce, November 17th, 1915.

and special ability. Where the term is short there is no incentive to become proficient. Intelligent and ambitious men will be discouraged from putting forth the additional effort necessary for self-training for this service, because of the probability that they will not be permitted to remain in the work long enough to make such preparation worth while.

The way to secure commissioners who will work for the public interest and who will be able to resist the frequent temptations to betray the trust imposed in them, is not to hold over them the possibility of removal at short intervals. This method of controlling public officials by granting very short terms, subject to re-election, has failed dismally wherever tried. It has been found that a man who has any tendency to be corrupt will be spurred on by his short term of office to get as much for himself as possible before his opportunity vanishes. Especially have these conditions worked out in municipal affairs.

The way to secure public-spirited and incorruptible officials is to offer such conditions of tenure and salary that men of a high type will be attracted to the work. Our whole American system of checks and balances, short terms, fear of removal, etc., has been clearly demonstrated to be an out and out failure, as a means of securing honest and efficient public service.

Any tendency, then, toward a long, appointive, term for our regulative commissions is to be viewed with satisfaction. The possibility of immediate removal should, of course, always exist, but such removal should be possible only for cause and these officials not subject to political and personal whims of

political officials.

Qualifications of
Commissioners :

State laws organizing regulative commissions, without exception, contain a clause excluding from membership any person in any way interested in or connected with a public utility company. The following extract from the law of Arkansas is practically indetical with that incorporated in the statutes of the remaining states: "No person employed or connected with or holding any official relation to or owning stocks or bonds or having any direct or indirect or pecuniary interest in any public utility of the kind over which this commission has jurisdiction shall be eligible to enter upon the duties or fill the office of commissioner." (j)

"Interested" has been interpreted to exclude those whose interest does not prevent them from being "indifferent." The depositors of a bank owing^x railroad stock are not considered "interested." (k)

The legislation in this regard is not usually interpreted to exclude from election those who at the time of becoming candidates for office are "interested" in a public service company. The usual requirement is that they immediately divest themselves of such entangling alliances.

Two states, Idaho and West Virginia prohibit the members of regulative commissions from holding any other political office.

Twenty-six states aim to secure the full time and energy of

(j) Acts 1907, No. 422, Section 5.

(k) In re opinion of Justices 75 New Hampshire 613.

members and employes by prohibiting them from engaging in any other business or employment. This is a clear recognition of the importance and value of the work of these men. It was not uncommon in the earlier days to require only part time from these officials, and pay them accordingly. The incompetency and inefficiency resulting from making civic work a side issue is splendidly illustrated by the results secured from county commissioners, and aldermen or councilors in smaller cities.

When it comes to demanding positive qualifications from commissioners the states are far from unanimous. Of the forty-five states under consideration, thirty-six require only such nominal qualifications as are required for voting, plus the attainment of slightly greater age, usually either twenty-five or thirty. The nine states listed below have made at least an attempt to require more or less additional qualifications:

Georgia	Ohio
Kansas	Virginia
Maine	Wisconsin
Michigan	West Virginia.
Nevada	

Six of these states require that one member of the commission be an attorney admitted to the bar of the state. Of the three remaining, two require "a general knowledge of railroad law," in the case of at least one member, and one makes no requirement of legal knowledge. Virginia requires that at least one member shall have the qualifications of a judge of the Supreme Court of Appeals. Maine is the only state requiring one commissioner to

be a Civil Engineer. Seven of the nine require that one or more members of the commission shall have "a general knowledge of the construction and operation of public utilities."

The idea of division of spoils is still indicated by the provision in the law of three states prohibiting the appointment of more than two members from the same political party.

Thus it can be seen that very few states have yet even attempted to require technical qualifications for commissioners. To those that have considered the matter, legal knowledge seems to be the most desirable asset. The other requirement of "a general knowledge of the construction and operation of public utilities" is so very general that it sets up no standard. What man cannot claim a "general knowledge of the construction and operation" of these industries.

I am not at all sure that a technical requirement would aid in securing more satisfactory commissioners. I believe that what we need on these bodies are liberal, broad-minded men, with practical administrative and judicial ability, and an alertness to social and economic conditions. They should not so lose themselves in technical detail that they cannot see the forest for the trees. Much service will of necessity have to be hired, and legal and engineering services should be furnished by employees who are specialists.

III. FIELD OF COMMISSION WORK.

"Weak" vs. "Strong" Commissions: The so-called "weak" or "advisory" commission is usually understood to be a body with functions limited to the power to investigate, advise, and give publicity to facts and conclusions. Opposed to, and almost uniformly superceding, this type of regulative body is the commission "with power." This refers to the fact that, aside from authority to investigate, the modern type of regulative body is armed with the power to enforce its mandates, within the more or less broad limits set by controlling legislation. Previous to 1900 the policy of giving a regulative commission mandatory powers was practically unheard of and the idea was repugnant to most legislatures. But the almost universal failure of the established organizations to correct existing striking abuses led to the gradual increase in powers.

There is perhaps only one substantial exception to the statement that "advisory" commissions have always been unable to cope with the situation successfully. Massachusetts for a period made a striking and unexpected success of the advisory form of commission. This commission was organized on the basis of the conviction of "the eventual supremacy of an enlightened public opinion." (a) Public opinion is effective, of course, only when it is supported by ultimate power in the legislature and courts.

(a) Adams, Railroads, their Origin and Problems, page 140.

The brilliance of the Massachusetts idea was not recognized at the start, in fact it was only an accident that the plan was adopted. "Had it not been a flagrant legislative guess, it would have been an inspiration." (b) The reason for the success of this experiment is found in the conditions of the community. This region was conservative and its standards of business ethics were fixed. Most of the necessary railroads were already built and the evils attendant upon a booming construction period were not present. The commissioners for a long and consecutive period of years were men of exceptional ability and character. They handled the complaints brought before them in a masterly manner and because of the good feeling existing between the railroads and the community, their decisions were usually readily accepted by both parties. Full accounts of all decisions rendered, were published and circulated. The owners of the railroads were usually locally resident and thus susceptible to the public feeling. They wished above all to be respected by their neighbors whom they met at church and club - and this respect would be given only so long as the established code of business ethics was not violated.

But when business became very complex and the public service corporations insolent with power, the Massachusetts method of regulation began to break down. Also, in the later years of the commission's existence the personnel of the body degenerated from its early high standard. From these causes the last years of the bodies' existence were periods of impotence and futility, in

(b) See Page 138 Adams, Supra.

spite of its earlier record of success.

But early conditions in Massachusetts were unique and antithetical to those existing in most localities - especially in the west. Here was found railroad extension and construction in its heyday. Communities were new and population shifting. Ethical codes were unsettled and in a process of revision. Public opinion was weak and undecisive on matters of business morality. Given this environment a regulative commission without power of legal enforcement would be absolutely impotent. Abuses, especially in the transportation business, multiplied and intensified sufficiently to make it clear to even a long-suffering public that their regulative machinery was not workable in its then-existing condition. But even then increases in power were conferred reluctantly and grudgingly. It was a new departure for the American people and they viewed it with suspicion.

This augmentation of power has in general been along lines of regulation of rates, service, safety, security-issues, and inter-corporate relations.

Regulation of Rates: The authority to fix and adjust compensation for furnishing services to the public is the most far-reaching power that has ever been secured by regulative bodies. If the power to tax is the power to destroy, then certainly, the power to fix rates of compensation for public service companies is the power to control, and, if unlimited, the power to destroy. Rate fixing by public utility commissions is, however, limited in two ways. First, a rate must be "reasonable," and, second, the federal constitution guards the companies against a confiscatory rate. All

jurisdictions have given the commissions power to adjust rates until they are reasonable. The Arizona law in this connection reads as follows: "All charges made, demanded, or received by any public service corporation or by any two or more public service corporations for any product or commodity furnished or to be furnished or any service rendered or to be rendered shall be just and reasonable. Every unjust or unreasonable charge made, demanded or received for such product or commodity or service is prohibited and declared unlawful.

All rules and regulations made by a public service corporation affecting or pertaining to its charges or service to the public shall be just and reasonable." (c)

The California provisions are identical with this, and the legislation of other jurisdictions have substantially the same content.

The statutes are also very uniformly general as to the method of determining a "reasonable" rate. The New York provisions: "Commissions shall give due regard among other things to a reasonable average return upon the value of the property actually used in the public service and to the necessity of making reservation out of income for surplus and contingencies in determining the just and reasonable rates, fares and charges to be thereafter observed and enforced as the maximum to be charged for mileage, excursion, school or family commutation, commutation, half fare or any other form of reduced rate tickets for the transportation of persons or joint inter-changeable mileage tickets with special privileges.

(c) Session Laws 1912, Ch. 90, Sec. 13-A and 13-C.

In determining the price to be charged for gas, or electricity, commissions may consider all facts which in their judgment have any bearing upon a proper determination of the question, although not set forth in the complaint and not within the allegations contained therein, with due regard among other things to a reasonable average return upon capital actually expended and to the necessity of making reservations out of income for surplus and contingencies.

Commissions shall give due regard among other things to a reasonable average return upon the value of the property actually used in the public service and of the necessity of making reservation out of income for surplus and contingencies in determining the just and reasonable rates, charges and rentals to be observed and in force as to the maximum to be charged, demanded, exacted or collected for the performance or rendering of services by telegraph and telephone corporations." (d)

Wisconsin: "Commission shall provide for depreciation in fixing the rates, tolls, and charges of utilities to be paid by the public." (e)

From the above typical legislation it can be gathered that the basis to be used in the determination of what is a "reasonable" rate is very largely a matter to be arranged by the regulative bodies themselves. The elements mentioned in the above excerpts can only be taken as lists of suggestions, for the consideration

(d) Laws 1910, ch. 480, Sec. 49, 72, 91.

(e) Laws 1907, ch. 499, Sec. 1797 m 15.

of the commissioners. The attempt to determine this "reasonable" rate has involved the whole question of regulation in the quagmire of valuation. For our purposes it will not be necessary to go deeper into this phase of the difficulty. The point is that practically all commissions do have the power of fixing or adjusting rates - upon complaint and investigation or upon the original motion of the commission.

Regulation of Service: The regulation of service given by public utilities has engaged the attention of the commissions from two different angles: (1) The provision of adequate service (2) The giving of the service to all under like conditions at the same price.

The power to require adequate service is very generally possessed by regulative bodies.

Florida: "Commissions may direct and control all matters pertaining to railroads that shall be for the good of the public."

(f)

"All persons ***** operating a line or lines of telegraph ---- shall be under the control of commissions who shall have full power to regulate the prices to be charged and the service to be rendered *****" (g)

Iowa: "Commissions shall have general supervision of all railroads operated by steam, express companies, *****" (h)

Maryland: "Commissions shall have general supervision of all common carriers **** with respect to the adequacy, security and

- (f) Gen. Stats. 1906, amended, Sec. 2893.
(g) Laws, 1911, ch. 6187 Sec. 1.
(h) Code 1897, amended, Sec. 2112).

accommodation afforded by their service ***** (i)

Minnesota: "The general supervision of railroad and express companies doing business as common carriers and of public warehouses is vested in this commission." (j)

Nebraska: "Commissions may regulate the rates and services of and exercise a general control over all railroads *****" (k)

This legislation is typical. The power to determine and demand adequate service is sometimes given in a "general supervision" clause and in other jurisdictions more specifically. (See Nebraska Supra)

This power is exercised in determining the number and character of trains that shall be run, the location of stations, provision of drinking water, arrangement for separation of races on southern roads, etc., etc. In fact much of every commission's time is taken up in hearings to determine whether adequate service requires a station at a certain point, more trains per day, better sanitation on cars and at stations, etc., etc.

But the phase of service regulation which has been most prominent and which, as a matter of fact is in large measure responsible for the increased powers placed in the hands of regulative bodies, is the question of discrimination in rates or service. I am quoting some typical legislation on this subject.

Wisconsin: "If any railroad or any agent or officer thereof shall directly or indirectly by any special rate, rebate, draw-

(i) Laws 1910, ch. 180, Sec. 13.

(j) Rev. Laws 1905, amended, sec. 1953.

(k) Cobbe's Annot. Stats. 1909, amended, Sec. 10650 b.

back or by means of false billing, false classification, false weighing or any other device whatsoever, charge, demand, collect or receive from any person, firm or corporation, a greater or less compensation for any service rendered or to be rendered by it for the transportation of persons or property or for any service in connection therewith than that prescribed in the published tariffs then in force or established as provided by law or than it charges, demands, collects, or received, from any other person, firm or corporation for a like and contemporaneous service, such railroad shall be deemed guilty of unjust discrimination which is prohibited and declared to be unlawful, and upon conviction thereof shall forfeit and pay into the state treasury not less than \$100 nor more than \$10,000 for each offence; and any agent or officer so offending shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not less than \$.50 nor more than \$100 for each offence." (1)

Texas: If any railroad directly or indirectly or by any special rate, rebate, drawback or other device shall charge, demand, collect, or receive from any person, firm, or corporation, a greater or less compensation for any service rendered or to be rendered by it than it charges, demands, collects, or receives from any other person, firm or corporation for doing a like, and contemporaneous service, such railroad shall be deemed guilty of unjust discrimination which is prohibited. (m)

I have been unable to find a single jurisdiction, among those

(1) Laws 1905, ch. 362, Sec. 1797.

(m) Sayles' Civ. Stats. 1897, amended, Art. 4574.

which support regulative commissions, which does not have a very specific and detailed provision in its laws against discriminatory rates or service. The great "rebate" suits emphasized this phase of regulative work and made the public perfectly familiar with this abuse in all its details. Public opinion and commission authority is so clear upon this matter that attempted direct discrimination is no longer common.

Regulation of Inter-
Corporate Relations:

Intercorporate management and relationships undoubtedly very definitely affect the ability and disposition of public utility companies to give efficient and economical service to the public. But because the effects of these transactions are so indirect and so unappreciable to the mass of people, they have to a large degree escaped being placed in the field of regulation. Connecticut even prohibits the interference of her Public Utilities Commission in these matters: "Any company may make lawful contracts with any other company with whose railroad its tracks may connect or intersect, in relation to its business or property and may take a lease of the property of, or lease its property or franchises to any such company." (n)

Arizona, California, Illinois, Maryland, Massachusetts, New Hampshire, New Jersey, New York and Ohio require public utility companies to secure permission from the regulative commissions before they can encumber their property or franchise, by lease, transfer or assignment of any kind.

(n) General Stats. 1902, sec. 3702.

Such permission is also required before a utility can secure from another utility company any lease or transfer of its property, rights or franchise.

New Jersey: "No public utility as herein defined shall without the approval of the commission, sell, lease, mortgage, or otherwise dispose of or encumber its property, franchises, privileges or rights, or any part thereof, nor merge or consolidate its property, franchises, privileges or rights or any part thereof, with that of any other public utility as herein defined. Every sale, lease, mortgage, disposition, encumbrance, merger or consolidation made in violation of any of the provisions hereof shall be void and of no effect ***" (o)

This New Jersey law is substantially typical of the legislation in the remaining eight states which have touched the matter.

Wisconsin does not require permission from the regulative commission but requires the filing of a written notification of the transaction, within ten days after its performance.

Seven states: Arizona, California, Kansas, New Hampshire, New Jersey, New York and Ohio have legislation prohibiting one public utility from holding the stock or securities of another, unless the express permission of the commission is first secured.

Ohio: "With the consent and approval of the commission, but not otherwise; any public utility may purchase the stock of any other public utility." (p)

The legislation of the remaining six states does not materially differ from that of Ohio.

(o) Laws 1911, ch. 195, Sec. 18(D).

(p) Laws 1911, No. 325, Sec. 63.

Three states, Massachusetts, Ohio and Wisconsin, have legislated against consolidation, without permission from the regulative body.

The obvious conclusion to be drawn from the above analysis is that the field of inter-corporate relations is one which has been left comparatively untouched by regulative organizations. The reason for this was hinted at in the first paragraphs of this section. The elements which effect service and rates to the public will be included within the scope of regulation in the order in which their importance is realized by legislatures and the public. The public does not ordinarily and constantly come into contact with inter-corporate relationship, and therefore requires to be educated as to the influence of these matters upon the things with which they are familiar and interested in, i. e. service and rates.

Regulation of Safety
of Operation:

Safety of passengers and employees of railroads has been one of the chief concerns of the public, and especially of regulative commissions. This is one of the phases of public utility operation which is constantly being called to the attention of every one through newspaper accounts of accidents and injury and through personal experience. During the fiscal year 1910 - 11, 10,396 fatal, and 150,159 non-fatal accidents were reported as due to the operation of the railroads alone. (q) This condition resulting in the injury of over 160,000 persons each year by one branch of our public utilities cannot help but impress itself upon the public. Consequently we are not surprised to find that every regulative body in the United (q) Rubinow, Social Insurance, page 55.

States has rather broad powers in regard to improving the safety of operation of public utilities - more especially in the case of the conspicuously dangerous ones - railroads.

Many jurisdictions give broad general powers.

Connecticut: "No part of any railroad or street railway shall be opened for public travel unless the company operating such railroad or street railway shall first obtain a certificate signed by commission that is is in a suitable and safe condition.

Commission shall from time to time, recommend to the several companies operating steam railroads and street railways in the state, or to any of them, the adoption of such measures and regulations as such commission deems conducive to the public safety or interest; and shall report to the next general assembly any neglect on the part of any such company to comply with any such recommendation." (r)

Massachusetts: "No street railway or portion or extension thereof shall be opened for public use until railroad commission, after an examination, certifies that all laws relative to its construction have been complied with and that it appears to be in a safe condition for operation; but nothing herein contained shall be construed as compelling commission to grant such certificate until the entire road included in the location of such railway, or portion or extension has been completed." (s)

The above power was taken over by the Public Service Commission upon its superseding the railroad commission.

(r) Gen. Stats. 1902, as amended, Sec. 3886 and 3895.

(s) Acts 1906, ch. 463, part 3, Sec. 73.

California : "Commission may, after hearing had upon its own motion or upon complaint, by general or special orders, rules or regulation, or otherwise, require every public service corporation, to maintain and operates its line, plant, system, equipment, apparatus, tracks, and premises in such manner as to promote and safeguard the health and safety of its employees, passengers, customers and the public, and to this end prescribe among other things, the installation, use, maintenance and operation of appropriate safety or other devices or appliances, including interlocking and other protective devices at grade crossings or junctions and block or other system of signaling, establishing uniform or other standards of equipment, and require the performance of any other act which the health or safety of its employees, passengers, customers, or the public may demand." (t).

Aside from general powers, of which the above excerpts are typical, many specific ones giving authority to order interlocking devices, block signals, derailing devices, boiler inspection, sanitation, "full" train crews, hours of service, etc., etc., are included. I will quote some typical laws to give an idea of the general rule prevailing in these matters.

Reporting Accidents.

Colorado: "Every common carrier shall, whenever an accident by bodily injury or loss of human life occurs in this state on its line of road or on its ground or in its yard, give immediate notice thereof to the commission." (u).

(t). Session laws of 1912, ch. 90, Sect. 42.

(u). Laws 1910, Sp. session, ch. 5, Sect. 26.

Requirement of
Interlocking devices.

Oregon: "In any case where the tracks of two or more railroads cross each other at a common grade it shall be the duty of such railroads, when ordered by commission upon complaint or its own motion, upon notice, to protect such crossings by interlocking or other safety devices, under regulations to be designated by the commission, to prevent trains colliding at such crossings***** Any company, corporation, receiver, or person operating any railroad who shall refuse or neglect to comply with any order made by commission in pursuance of the terms of this section shall forfeit and pay to the state a penal sum of \$500. per week for each week of such refusal **** " (v).

Train Crews.

Wisconsin: "It shall be unlawful for any railroad company to run over its road or part of its road, outside of the yard limits any passenger train with three cars or less, with less than a full passenger crew, consisting of one engineer, one fireman, one conductor, and one brakeman, for more than three cars two brakemen, and on trains of more than three cars the said brakeman shall not be required to perform the duties of the baggage master or express agent while on the road *****" (w).

The above typical legislation indicates that safety regulation has been given much attention and has been gone into in great detail.

Mr. A. J. County, Special Assistant to the President of the Pennsylvania Railroad Company (x) uses data indicating that the

(v). Gen. laws 1907, ch. 53, Sect. 25.

(w) Laws 1907, ch. 402, Sect. 1809.

(x) Before the Wharton School of the University of Pennsylvania, November 17, 1915.

cost of compliance with the safety regulations of the various state and federal regulative bodies, had up to that time cost the railroad of the United States eighteen millions of dollars. At present figures on this subject can only be estimates and approximations, and Mr. County does not claim that the ones he gives are accurate. Nevertheless such statements give an idea of the magnitude of this phase of regulative work, and also the attitude of the railroads - a phase which will be touched upon in a later chapter.

Regulation of Security issues. "Mr. Poor said in 1885 that the actual cost in money of all the railroads in the United States did not exceed \$3,787,000,000 and that the *fictitious* (the italics are mine), capitalization, was \$3,708,000,000". (y)

In the absence of data from physical valuation, all statements in regard to the exact proportion of "water" in public utility securities can only be approximations of doubtful accuracy. It is, however, universally admitted that the proportion is substantial. The corporations themselves admit that such a condition exists, but oppose elimination of this water on the ground that the persons now in control are not responsible for this condition. They beg us not to inflict the sins of the fathers upon succeeding generations. They also point to the fact that these securities are now held by innocent purchasers, who purchase them in good faith. The phrase "widows and orphans" is a favorite part of their description of the present holders of this paper.

(y) E. F. James before the American Economic Association, Boston, May 21 to 25, 1887.

Omitting consideration of the question of remedying the evils of over capitalization in the past, we find ourselves confronted by the problem of preventing them in the future.

Pennsylvania in her latest legislation (1913) on the subject has refused the Public Service Commission the power to regulate the issuing of securities by public service companies. All that is required is notification and publicity.

Aside from this isolated instance the states are practically unanimous in requiring that all public service companies secure permission from the regulative commission before issuing any variety of securities. Below are quoted typical statutes on the subject:

Nebraska: "A common carrier or public service corporation organized, and incorporated or hereafter incorporated, under or by virtue of the laws of Nebraska, may issue stocks, bonds, rates, or other evidences of indebtedness payable at a period of more than twelve months after the date thereof, when necessary for the acquisition of property, the construction, completion, extension, or improvement of its facilities, or for the improvement or maintenance of its service or for the discharge or lawful refunding of its obligations, provided, and not otherwise, that there shall have been secured from commission and order authorizing such issue and the amount thereof and stating that it is the opinion of commission that the use of the capital to be secured by the issue of such stock, bonds, notes or other evidences of indebtedness is reasonably required for the said purposes of the corporation." (z)

(z) Acts. 1909, ch. 108, Sect. 1

New Jersey: "No public utility as herein defined shall hereafter issue any stocks, stock certificates, bonds or other evidences of indebtedness payable in more than one year from the date thereof until it shall have first obtained authority from commission for such proposed issue.

It shall be the duty of the commission, after hearing, to approve of any such proposed issue maturing in more than one year from the date thereof, when satisfied that the same is to be made in accordance with law and the purpose of such issue be approved by said commission." (*)

This typical legislation clearly indicates that the states are exerting their best efforts to avoid future inflation of capitalization. Whether these attempts will be successful cannot, of course, be ascertained at this early date, but indications are such that exponents of regulation of capitalization are optimistic.

Conclusions.

(1) The era of the "advisory" or "weak" regulative commission is over, the present day commission is a body with mandatory powers.

(2) Commissions have very broad powers over rates, service, safety, and security regulations, and rather limited and undeveloped authority over matters of intercorporate relationship.

(3) Commissions are first given broad powers over the more obvious activities of the public service companies. Power to regulate activities with which the public does not come in frequent contact is granted slowly and grudgingly.

(*) Laws 1911, ch. 195, Sect. 18.

E II

STATE WISE COMMISSIONS

ANNUAL EXPENDITURES (a)

	1907	1908	1909	1910	1911	1912	1913	1914
Alabama	\$14,531.42	\$17,978.81	\$17,238.56	\$15,563.46	\$16,484.85	\$14,384.90	\$17,500	\$18,562.22
Arizona						16,092.75	46,565.62	47,377.60
Connecticut					16,916.09	36,607.24	40,246.78	45,078.08
Florida	16,130.33	27,806	31,966	1,980	30,697	35,257	39,072	34,418
Idaho								25,499
Illinois	28,400.92	37,810.82	37,362.00	36,743.32	42,842.31	43,142.35	54,917.74	142,443.24
Indiana	21,344	30,985	28,707	1,504	33,359	26,584	22,483	94,302
Iowa		37,368.87				54,810.61	109,676.54	
Kansas	14,933.99	17,289.85	22,983.82	19,962.15	25,604.42	25,787.91	47,616.19	43,824.33
Maine	11,907	13,202	13,736.50	13,573	11,683	13,267	11,968	10,816.65
Massachusetts	90,230.24	99,425.64	108,680.20	100,330.87	113,760.20	128,761.41	220,309.96	200,314.48
Maryland				14,144	63,170	79,655	68,422	56,339
Michigan	21,337.51	26,034.50	24,977.14	24,800.57	28,000.27	28,962.19	29,353.17	35,467.88
Minnesota	38,818.61	60,647.21	64,449.60	63,792.50	53,511.94	43,677.64	44,711.21	56,821.05
Missouri	53,716.69	17,987.48	18,066.70	14,147.69	20,589.74	21,438.72	67,469.96	105,147.43
Montana	20,659.06	21,367.59	19,066.80	19,923.84	24,383.07	26,445.48	35,633.09	34,190.63
Nebraska		39,134.20	29,392.10	29,904.30	38,534.80	33,553.24	42,949.13	51,920
Nevada		10,067	16,445	15,526	19,523	21,306	21,748	27,005
New Hampshire	13,471.38	9,559.69	10,811.90	9,992.91	11,623.97	21,200	28,320.13	38,633.95
New Jersey	28,904.37	29,078.53	29,602.40	29,371.67	57,335.84	89,993.86	93,928.98	136,208.31
New Mexico						20,801	30,229	28,043
New York(b)		262,251.92	279,098.20	279,955.20	344,611.03	376,119.70	375,270.18	405,906.58
Ohio	37,305	51,014.08	41,105.10	41,166.31	47,667.98	46,007.55	79,833.20	150,488.12
Oklahoma			56,506.10	56,399.12	80,919.68	78,120.21	73,191.38	69,588.33
Oregon	15,000	15,000	25,000	25,000	27,500	27,500	52,500	52,500
Pennsylvania		46,488.44	63,098.10	63,991.61	72,621.22	68,962.66	77,965.32	172,138.09
Rhode Island	3,658.39	3,888.66	3,809.70	3,850	3,867.19	3,764.81	21,056.36	18,259.06
South Dakota	10,480.93	14,139.29	18,229.20	18,045.20	17,374.39	15,176.06	15,579.80	16,922.88
Tennessee	11,462.38	11,511.36	12,045.30	12,733.84	13,320.82	10,952.06	22,811.19	23,961.87
Vermont	5,827.80	5,948.65	7,787.70	7,591.34	9,619.35	9,942.44	14,677.91	18,279.28
Virginia	29,100	37,120	35,420	35,500	40,500	40,500	40,500	42,200
Washington	33,632.27	33,632.27	35,803.50	35,211.87	33,922.75	83,476.03	60,501.43	85,306.73
Wisconsin	34,814.84	65,183.41	94,387.50	93,850.70	118,314.90	132,526.70	149,065.87	200,473.38

a. See preface for sources.

b. Second District com. only. See preface.

IV. COMMISSION EXPENDITURE

Analysis of Data as to
Accuracy and Scope:

At this date there are forty-five states which support one or more public utility regulative bodies. Through the use of a great variety of sources (a) it has been possible to compile the total expenditures of these commissions in thirty-three jurisdictions, for the period from 1907 to 1914, inclusive, or if organized since 1907, from date of organization to 1914 inclusive.

For twelve states (b) I have been ^{un-}able to secure the desired data from available official reports or through correspondence with state officials in charge of financial records.

With the possible exception of California, Nebraska, and Texas, the list of states from which data is omitted is made up of southern or sparsely settled western states, which have taken only a nominal interest in the question of public utility regulation.

By the close of the year 1907, thirty-eight states had established Commissions. The regulative bodies of six of these states were organized so late in the year that they should be omitted from our present calculations for that year. Of the remaining thirty-two jurisdictions twenty-four are among those from which we have data, and ^{eight} are in the list from which we have been unable to secure returns. Thus in arriving at the total State-

(a) See Preface for explanation of sources.

(b) Arkansas, California, Colorado, Georgia, Kentucky, Louisiana, Mississippi, Nebraska, North Carolina, North Dakota, South Carolina, and Texas.

PLATE III.

EXPENDITURES OF STATE COMMISSIONS.

<u>Year</u>	<u>Data from</u> <u>Official Sources (a)</u>		<u>Estimated (b)</u>		<u>Total</u>
	No. of States	Amount.	No. of States.	Amount.	
1907	24	\$593,918.66	8	\$197,972.88	\$ 791,891.54
1908	27	984,669.73	11	401,161.75	1,385,831.48
1909	28	1,167,632.77	12	500,414.04	1,668,046.81
1910	29	1,298,252.56	12	537,207.84	1,835,460.40
1911	30	1,445,645.41	12	578,258.16	2,023,903.57
1912	32	1,657,051.21	12	621,394.20	2,278,445.41
1913	32	2,058,786.30	12	772,044.84	2,830,831.14
1914	33	2,503,807.44	12	910,475.40	3,414,282.84

(a) See Preface, also page 42 Chapter IV.

(b) For method used in arriving at this estimate see page 42 Chapter IV.

commission expenditure for 1907, we have the use of accurate statistics for 75 per cent of the states. The remaining twenty-five per cent must be calculated on the basis of the known 75 per cent .

The commissions of the 24 states from which we have official returns for 1907, expended a total of \$593,918.66. This gives an average cost of \$24,746.61 per state. Using these figures as a basis we arrive at the sum of \$197,972.88 as the probable expenditures of the eight states from which we lack data. Adding these two amounts we arrive at the total state-commission expenditure for 1907 as \$791,891.54.

The above methods have been used to calculate the probable total expenditure of all state commissions for the period 1907 to 1914 inclusive. The data is tabulated on Plate III in such a manner as to indicate the exact amount of official data and the amount estimated.

Expenditures of the Interstate Commerce Commission for 1907 as officially reported (c) amounted to \$538,827.26. Thus the grand total of expenditures by state and federal regulative bodies for 1907 was \$1,330,718.80. Of this total, eighty-three per cent is taken from official returns and seventeen per cent is estimated on the basis of official returns from seventy-five per cent of the state commissions then in existence.

Plate III shows the amount of data from official sources and the amount estimated, for each year of the period considered. In 1907 it was necessary to calculate the probable expenditure for the regulative commissions of eight out of thirty-two states. Of

(c) Twenty-first Annual Report of the Interstate Commerce Commission, page 169.

PLATE IV.

GROWTH OF EXPENDITURES

STATE COMMISSIONS.

Year	No. of States	<u>TOTAL EXPENDITURES.</u>		<u>AVERAGE PER STATE</u>	
		Amount.	Per Cent Increase.	Amount.	Per cent Increase.
1907	32	\$ 791,891.54		\$ 24,746.61	
1908	38	1,385,831.48	75.	36,469.25	47.
1909	40	1,668,046.81	20.3	41,701.17	14.
1910	41	1,835,460.40	10.	44,767.32	7.3
1911	42	2,023,903.57	10.3	48,188.18	7.7
1912	44	2,278,445.41	13.8	51,782.85	7.4
1913	44	2,830,831.14	24.2	64,337.07	24.2
1914	45	3,414,282.84	20.5	75,872.95	17.8

the \$791,891.54, given as the total state-commission expenditures for this year, \$197,972.88 is estimated by the methods explained above.

By 1914 the estimated expenditure by states which give us no official information had risen to \$910,475.40. The total expenditure of all state and federal commissions for this year was \$5,508,366.11. Thus, in 1914, only 165 per cent of the total expenditure was estimated. Eighty-three and one-half per cent consists of data from official sources. Official data was secured from 33 out of 45 states for this period.

Taking into consideration the relatively small proportion of the estimated data and the broad and representative basis upon which the calculations are made, I feel that the totals secured are fairly accurate - at least sufficiently so to justify the generalizations and conclusions hereafter based upon them.

Cost of State
Commissions:

In 1907 we were paying approximately eight hundred thousand dollars (d) for the work done by our state public utility regulative commissions, which were thirty-two in number. This was an average cost of nearly twenty-five thousand dollars for each state which supported such a body.

The next year six more states entered the field of utility regulation and the total cost to the states jumped up seventy-five per cent, or over a million and a third dollars. The average expenditure per state increased forty-seven percent. These figures would indicate that not only was the number of commissions increasing, but that they were being given more liberal financial support,

because of a growing appreciation of the importance of their work and a broadening of its scope.

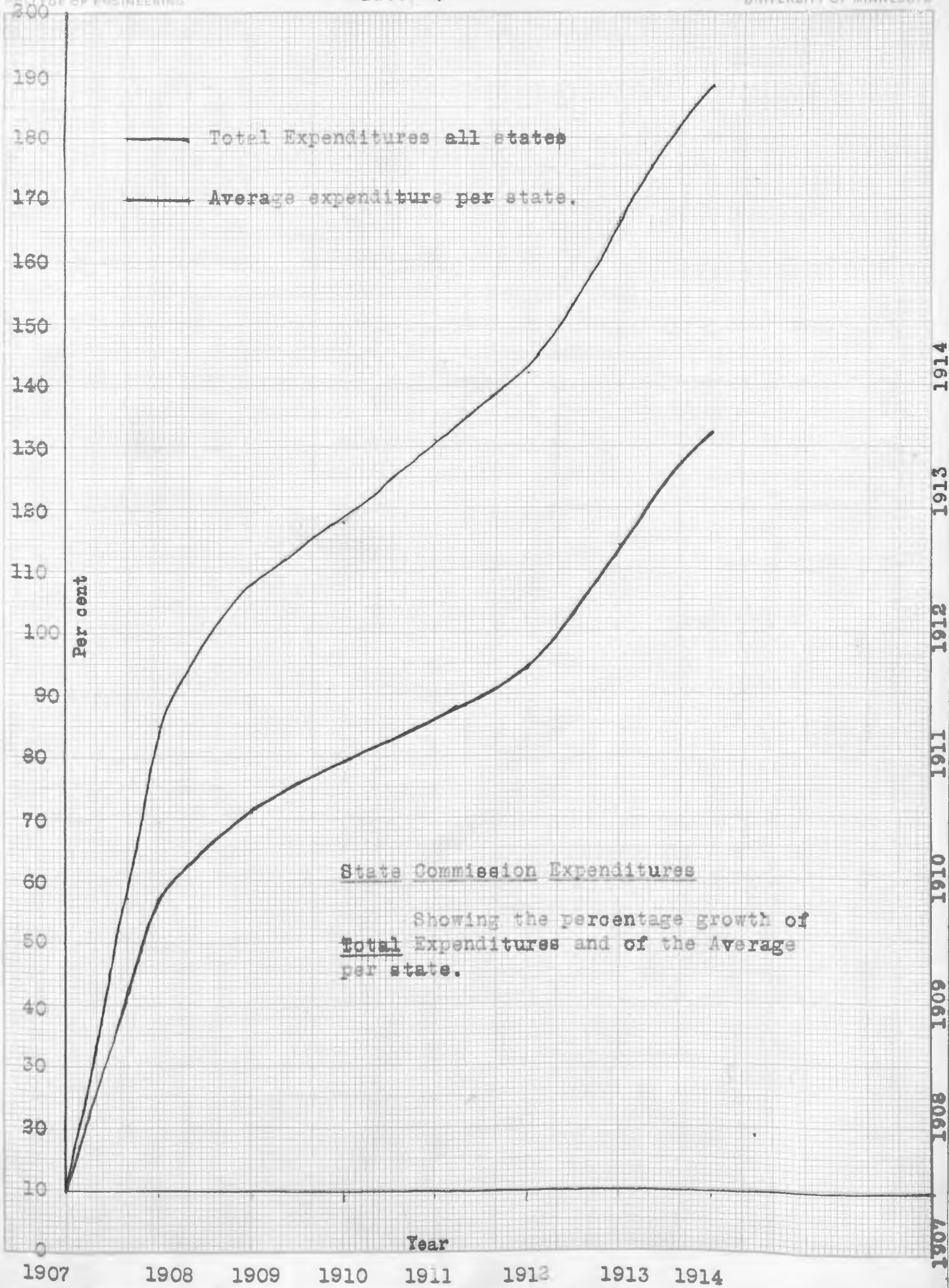
Beginning with 1907 an entirely new spirit seemed to pervade the mind of the public on the matter of utility regulation. The idea of commission regulation was accepted with enthusiasm and the years 1907, 1908, and 1909 can be classified as the "boom" years of the movement. In 1907 the New York commissions were organized with broad powers, and the Wisconsin body had its powers very materially enlarged. These were the leaders but they immediately had a large following.

In 1909 the per cent increase of total state expenditures for regulation increased 20.3 and the average per commission only 14 per cent over the previous year. This variation, of course, indicates the organization of new bodies. The table indicates two new commissions in this year.

By 1911 forty-two states had regulative commissions and they were spending over two millions annually in their work. The total amount expended and the average per commission was still increasing at a substantial rate, the former by 10.3 per cent and the latter by 7.7 per cent over the preceding year. The average state expenditure for this year was almost fifty thousand dollars.

The data for 1913 shows some peculiarities. This is the first year since 1907 in which no commissions were established. The number remains at 44. The expenditures for this year increased with a leap, the total cost shows an increase of 24.2 per cent over the preceding year. As the number of commissions remained

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State Commission Expenditures

Showing the percentage growth of total Expenditures and of the Average per state.

the same the average cost per state also shows the same increase . These conditions are accounted for by the fact that while new commissions were not being established, the powers of the existing ones were being much extended.

The graph on Plate V shows this comparison between the percentage growth in total state commission expenditures and the percentage growth of the average for each state. Obviously a disproportional increase in the total as compared with the state average would indicate the organization of regulative bodies in states which were previously without such bodies. On the other hand, when the per cent increase of the average for each state equals or approaches the percentage increase for the total, then increased expenditure of existing bodies is responsible for the rise in the total. During the years 1907 to 1909 the percentages for both the state average and the total, rose sharply. (Plate IV)

But the increase in total expenditures was proportionately larger than that of the average per state. Thus while two causes were at work to increase the cost of regulation during this period, the increase in the number of commissions was the most important factor . This condition continues in a diminished degree until 1913. During 1913 and 1914 there was a great deal of commission legislation enacted. When a multitude of new duties were given these bodies it was natural that their appropriations should be increased. No force was more emphatically exerted than that of the public utility companies in favor of the increased financial backing for the commissions. They found that only thru the provision of well equipped commissions could they avoid delay and loss

PLATE VI.

INTERSTATE COMMERCE COMMISSION

EXPENDITURES.

<u>Year</u>	<u>Amount. (a)</u>	<u>Per cent Increase</u>
1907	\$ 538,827.26	
1908	736,530.91	34.9
1909	988,936.32	34.2
1910	1,163,336.97	16.6
1911	1,286,670.74	10.6
1912	1,469,689.01	14.2
1913	1,560,404.21	16.2
1914	2,094,583.27	34.2

(a) Annual Reports, Interstate Commerce Commission.
No. 21 - 28 inclusive.

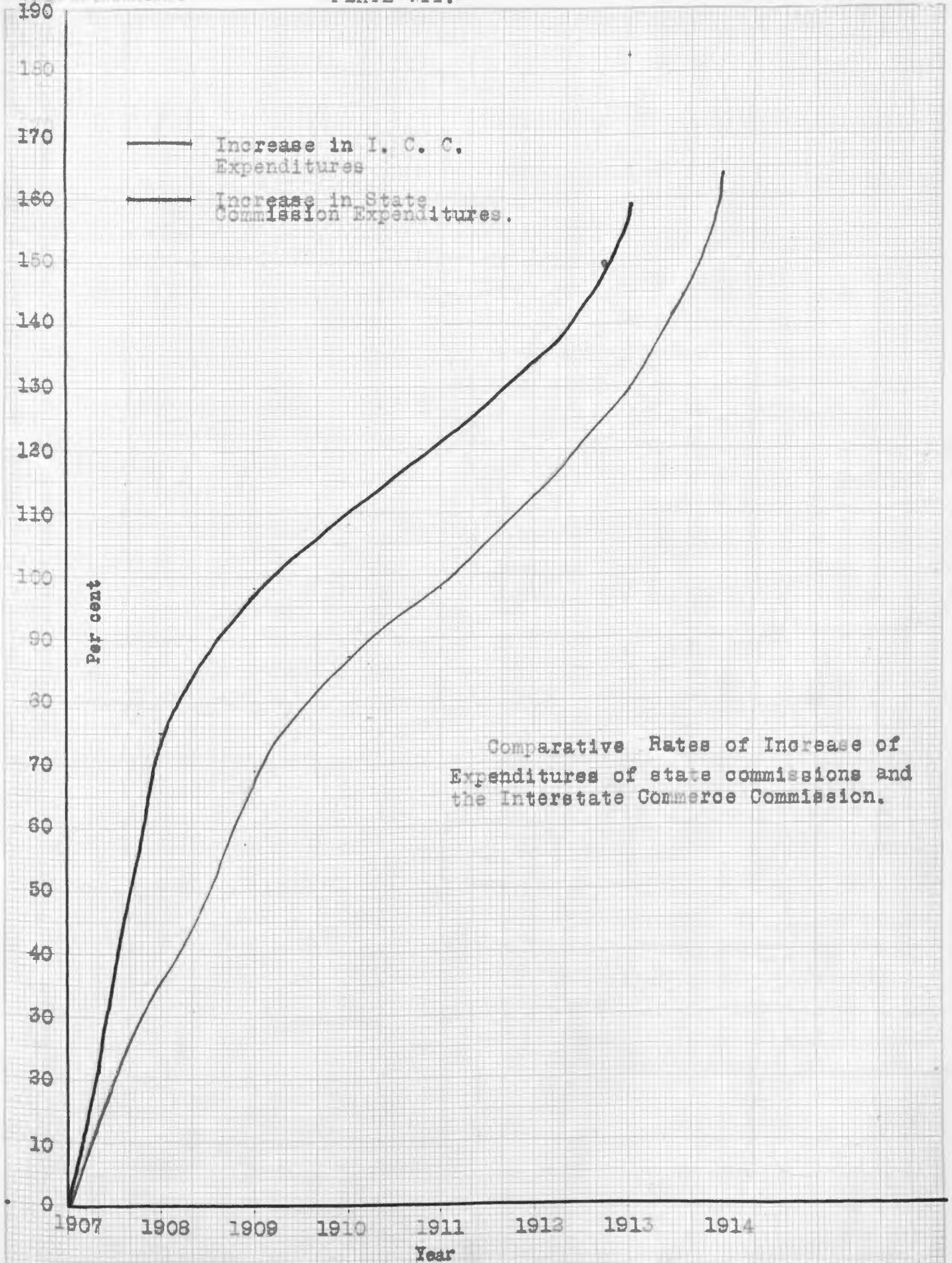
caused by the necessity of waiting for action by overburdened regulative bodies.

One additional state (West Virginia) organized a public service commission in 1914, bringing the total up to forty-five states where it still remains. The total cost to the states for utility regulation in 1914 was approximately three and one half millions of dollars and the average per state had risen to about seventy-six thousand dollars. The total amount of expenditures and the average per state were still increasing rapidly during this last period for which data is available—at the rate of 20.5 per cent and 17.8 per cent respectively. As most of the states have now established a regulative commission the tendency will be for the percentage increase in the average state expenditure to equal the percentage increase in the total.

Cost of the
Interstate Commerce Commission:

The tabulation on plate VII indicates that there has been a rapid increase in cost to the country for the work of the federal regulative commission. The total expense in 1907 was \$538,837,26. By 1914 it had risen to \$2,094,583,27. This is an increase of about 390 per cent, in eight years.

The increase has been at a varying rate. In 1907 the commission had its powers very largely increased and the next two years show a very rapid increase in expenditures. In 1908 the increase was nearly thirty-five percent, in 1909 slightly less. During the period of the next three years the rate of increase, hovered about twelve per cent. The addition of the valuation function to the work of the Interstate Commerce Commission caused a corresponding



Comparative Rates of Increase of Expenditures of state commissions and the Interstate Commerce Commission.

increase in the rate of expenditure. This makes itself apparent in the figures for 1913 and 1914, which indicate percentage increases of 16. and 34, respectively.

Plate VII gives a graphic representation of the annual growth of the expenditures of the Interstate Commerce Commission.

The total expenditure of this body for the period under consideration (1907 to 1914) has been approximately ten millions of dollars. (Plate VIII)

Total cost of state and Federal Regulation: The substantial portion of all regulation of public utilities in the United States is performed by the state commissions of forty-five jurisdictions, and the Interstate Commerce Commission. For the purpose of determining the price now being paid for this work it is not a matter of great importance whether the money is being expended by the national or state government.

The total expenditure of both these bodies for regulative purposes, in 1907, was approximately one and a third millions (Plate VIII). By 1914 it was slightly over five and one half millions, an increase in eight years of about 314 per cent. This would be an average of 39 per cent increase per year. These facts indicate a very rapid development of commission work during recent years and intense public interest and enthusiasm in this experiment.

In 1907 approximately 40 per cent of the expenditure was entailed by the federal body and 60 per cent by the state commissions. In 1914 38 per cent of the total was expended by the Interstate Commerce Commission and 62 per cent by the state commissions. This relative gain in favor of the state bodies is undoubtedly due to the fact that the federal regulative system was older and better

PLATE VIII.

TOTAL EXPENDITURES STATE COMMISSIONS

AND

INTERSTATE COMMERCE COMMISSION.

<u>Year.</u>	<u>State</u> <u>Commissions.</u>	<u>I. C. C.</u>	<u>Total</u>	<u>Per Cent</u> <u>Increase.</u>
1907	\$ 791,891.54	\$ 538,827.26	\$ 1,330,718.80	
1908	1,385,831.48	736,530.91	2,122,362.39	59.4
1909	1,668,046.81	988,936.32	2,656,983.13	25.1
1910	1,835,460.40	1,163,336.97	2,998,797.37	12.8
1911	2,023,903.57	1,286,670.74	3,310,574.31	10.4
1912	2,278,445.41	1,469,689.01	3,748,134.42	13.4
1913	2,830,831.14	1,560,404.21	4,391,235.35	17.1
1914	3,414,282.84	2,094,583.27	5,508,866.11	23.1
Total	\$16,228,693.19	\$9,838,978.69	\$26,067,671.88	

established at the beginning of the period than was the state system. As a matter of fact, the year 1907 saw the real beginning of the establishment and ^Wgroth of the modern state commission. The territorial jurisdiction of the collective state bodies and the single federal organization is practically the same. The only difference is that the Interstate Commerce Commission has jurisdiction over the railroads of Delaware, Utah, and Wyoming - states in which no local commissions are organized. The work of the federal organization is of course confined to the utilities engaged in interstate transportation, while the state bodies are beginning to deal with a much larger class of public utilities. (d)

The comparative rapidity of increase in expenditures by the federal and state regulative bodies is graphically shown by Plate VII. In 1908 under the influence of the great impetus towards state regulation the per cent increase in expenditure was seventy-five in the case of state commissions and only 59.4 for the federal body. Until 1913 the percentage increase is approximately the same in both instances. In this year both state and federal bodies received large increases over the preceding year - with the state commission slightly in the lead - 34.2 per cent increase against 17.1 per cent for the interstate commerce commission. Considering the small variations and the different bases, it appears that since 1907, the expenditures of the state commissions and the federal commissions have increased in fairly even ratio.

The curve on Plate IX illustrates the groth of the total expenditure by state and federal commissions for the eight year period. The uniformity of the curve is only distorted by the phenominal increases in the "boom" periods of 1908 - 1909, and

PLATE IX

Millions of Dollars

6
5
4
3
2
1
0

1907 1908 1909 1910 1911 1912 1913 1914

Years

Total Expenditures

State Commissions and Interstate
Commerce Commission.

1913 - 1914.

V. COST OF COMPLIANCE WITH COMMISSION ORDERS.

Magnitude: The discussion in the previous chapter has indicated that the amount of money being spent for regulation of utilities is increasing rapidly and now amounts to a very significant sum. In 1914 the expenditure for regulative purposes in the United States by the State Commissions and the Interstate Commerce Commission amounted to approximately \$18,000 for each working day. If this expenditure were capitalized at 5 per cent, it would give a fund of one hundred and ten millions of dollars. In other words, when we spend five and one-half millions annually for regulation it amounts to the same thing as adding one hundred and ten millions of dollars to the sum now invested for the purpose of producing these services for the public. This statement, is of course, dependent upon the provision that 5 per cent is accepted as a reasonable rate.

The question arises as to whether the Public Service Commissions are giving a financial or social return comparable with their cost. That there are still persons who can put forward very convincing adverse arguments is shown by the following quotation from Mr. Thomas N. Mc Carter, President of the Public Service Corporation of New Jersey. (a) "The two public service commissions of New York State ***** are spending, in the exercise of their functions, about three million dollars a year of the tax-payers money. It is very well to have somebody to curb the so-called rapacious corporations. It is very well to see that watered securities are not issued in the future, but it will take sixty million (a) Before the West Side Y. M. C. A. of New York City, April 13, 1914.

of these securities at 5 per cent interest that must be wiped out before these commissions have paid their freight. Three million dollars a year is a very large sum to spend for an idea !"

In this statement Mr. McCarter undoubtedly presents the views of a great number of people, who feel that the Commissions experiment is unsuccessful, and socially, as well as financially, non-paying.

The following article appearing in the Wall Street Journal for Wednesday morning, March 1, 1916, is a good summary of the best substantiated arguments of the anti-commission people:

"Proposed state legislation affecting the railway lines of the country in the years 1912, 1913, 1914 and 1915 included 3,016 bills introduced into the legislatures, of which 442 became laws. In 1915, 1,093 bills were introduced.

"In the laws passed were enactments governing arbitration, train rules, train crews, equipment, passenger and freight trains, cars, signals, clearances, proper crossings, maintenance of tracks, stations, claims, tres-passers, the character of the reports of the reports to be made, beneficial associations, and countless measures affectine the general conduct of the railway business. Some of the laws conflicted with others and nearly all imposed additional burdens upon the railways, added to expenses, and, to a certain extent reduced the efficiency of the railways to produce the needed transportation.

"Inasmuch as the data on the full crew law is more nearly available it will serve as the basis of calculation. The purport of this law is to regulate the number of men that railways must employ in their train crews.

"Twenty states have such a law on their statute books. Name-ly: Arizona, Arkansas, California, Connecticut, Indiana, Maine, Maryland, Mississippi, Nebraska, Nevada, New Jersey, New York, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, Texas, Washington and Wisconsin. The laws of twelve of these states com-pel the employment of additional men. In the past six years nine bills have been presented in Congress each of which would have com-pelled the employment of more men; but no federal train crew-law has yet been enacted.

"The legislatures of the following states have also refused to pass train-crew bills: Colorado, Delaware, Florida, Georgia, Illi-nois, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Montana, New Hampshire, New Mexico, North Carolina, South Dakota, Tennessee, Utah, Virginia, West Virginia and Wyoming.

"Faced with steadily increasing expenditures for wages, materials, and taxes, with rates for transportation of freight and passengers held down by law, the railways have been forced to prac-tice economies in operation. The greatest economies have been secur-ed by increasing the number of tons hauled per train., and by increas-ing the amount of traffic handled in proportion to the number of men employed. The extent to which the railways of the United States have increased their trainloads is indicated by the fact that the average number of tons per train in this country in 1890 was 175; in 1900, 271, and in 1912, 407. In the region of heaviest traffic, that comprising in general the states of New York, Pennsylvania, New Jersey, Delaware and Maryland, the average number of tons per train increased from 218 to 1890 in 502 in 1910. On some lines

The average trainload exceeds 1,100 tons; trainloads of minerals ranging from 3,000 to 5,000 tons are not uncommon, and sometimes a train has as many as 6,000.

"With this increase in car loading and train loading there has been a decrease in the number of men required to handle a given amount of traffic. It has not, however, been accompanied by a decrease in the total number of trainmen, for, as is shown herein, their number increased from 1901 to 1913 at a greater rate than the car mileage or the train mileage.

"This table drawn from the annual statistical compilations of the Interstate Commerce Commission, is presented for the purpose of showing as accurately as possible, for the years above mentioned the relation of increase in work performed:

	1901	1913	Increase	% Increase
Total tr.- mile, rev service	908,093,818	1,236,758,715	328,665,897	36.19
Fgt-car- mile, rev service	12,832,092,209	19,466,402,067	6,634,309,858	51.70
Total no. of train- men	209,043	318,329	109,286	52.28
"Other tr'men"	84,493	137,067	52,574	62.22

"An increase in the number of men in a train crew means an increase in the operating expenses and, unless accompanied by a corresponding increase in the traffic per train or in rates, means a decrease in net operating revenues. The railways are reporting to their Special Committee on Relations of Railway Operation to Legislation careful estimates of the additional expense resulting

from operating legislation already enacted. The committee made public the following compilation of replies received by it from 166 railways, operating 204,610 miles of line, regarding the expense caused them in the fiscal year ending June 30, 1914, by legislation, both Federal and State, affecting operation:

Cost of Compliance.

Federal and State Laws:	Yr. Ending June 30, '14	Total to June 30, '14	Amt. Necess. to Complete (Estimated)
Hours of service	\$5,013,345	\$	\$
Full (extra) crew ...	4,051,533
Boiler Inspection ...	4,141,051
28-hour stock law ...	247,119
Semi-monthly pay day	826,586
Safety appliance ;..	5,965,926	23,845,436	19,588,408
Post car requirement	890,907	4,391,531	3,129,670
Ash Pan	86,818	2,017,562	165,073
Headlight	1,002,840	2,635,294	624,966
Caboose	597,206	949,029	2,614,406
Jim Crow	29,623	659,380	1,468
Other enactments ...	2,785,850	12,852,649	96,684,127
Specific orders of state commissions	<u>3,065,179</u>	<u>.....</u>	<u>.....</u>
Total	\$ 28,703,983	\$ 47,350,881	\$ 122,308,118

"It will be seen that the total expense caused by operating legislation in the fiscal year 1914 to the railways reporting was \$28,703,983. This would pay a return of 5% on an investment of \$574,000,000. The total expense caused by the extra-crew laws was \$4,051,533. This would pay 5% on an investment of over \$80,000,000

"This estimate applies to the expense to the railroads on account of train-crew laws enacted in only a limited number of states. The full effect can be seen only from estimates of what it would mean to such laws to all the railways of the United States. Four train-crew bills were introduced in Congress in 1900 and 1910. The Special Committee on Relations of Railway Operation to Legisla-

tion made inquiries early in 1910 of all the railways as to the cost to them of complying with these federal bills, if enacted, as well as the expense they were being put to on account of state legislation then in force in 13 states. The following table is a summary of the replies received:

Estimate of 1910	Number	Mileage	Am. of Additional Annual cost of Compliance with Full-crew bill
Roads replying	186	205,547	\$18,328,302.32
Estimated for other roads in the U.S. .	126	23,254	1,953,336.00
Total	292	228,801	\$20,281,638.32

"These tables show that independent of the question of the defensibility of these laws the fact remains that they add greatly to the expense of railway operation, which must eventually find expression in higher charges to the public.

"The following estimates of the annual cost of the extra crew laws in New York, New Jersey and Pennsylvania are given as proved in the anthracite rate inquiry:

Railroads:	Annual Cost of Full crew laws:
Pennsylvania	\$837,178.65
Erie (Incl. Susquehanna & Western and New York & New Jersey R.R. Co's)	285,614.08
Lackawanna	320,736.38
Lehigh Valley	212,927.77
Jersey Central	115,890.97"

These facts and figures are surely not an understatement of existing conditions. They are collected from the complaints themselves and compiled by a publication thoroughly in sympathy with the interests of public utility companies.

Under present conditions there is no possibility of securing accurate statistics, in regard to these matters, with which to check those offered. But I believe the statements can be accepted

as given, even though they are suspected of exaggeration, and the entire "direct" and so-called "indirect" cost of regulation, still be justified.

It is here indicated that the additional cost of the railroads caused by complying with commission orders and regulations was almost twenty-nine million dollars for the one year 1914; that the total cost of such compliance to date has been approximately forty-nine millions; and that the amount necessary to complete the work ordered is about one hundred and twenty-two millions more.

I believe that none of these vast sums mentioned in the above paragraph should be included in the cost of regulation. Properly classified they will be included in the cost of service. They undoubtedly can not be included in the cost of the kind of service the utilities have been giving. However, a study of the detail of the expenditure as shown in the above table will indicate that practically all of the money spent in complying with the orders of the commissions should be included in the cost of the kind of service which should be given.

Is there any doubt that service to the public should be given in such a manner as to make safety to life and property the first requisite? If we have paid nearly twenty-four millions to improve the safety of employees and public, I'm sure the patrons of the utilities consider this as the cost of the most important element of the service which they have received. The larger the amount the commissions have found it necessary to order expended, for this purpose, the greater the reflection on the utilities concerned for neglecting this vital work until they were forced to attend to it.

The expense of complying with the so-called "28 hour stock law" is money spent to give only ordinarily humane treatment to stock in transit. Surely we are willing to pay for the kind of service which will enable us to ship stock without subjecting it to prolonged periods of agony !

Boiler inspection is really a specific method of increasing safety of operation.

The reduction of the hours of service is in accordance with the modern idea that from eight to ten hours is the most efficient working day for the long run. Reduction of hours from twelve and fourteen to eight or ten per day is also an aid to solving the larger problems of safety of operation. Many lives and much property have been lost through mistakes of over-fatigued employes. The "full train crew" laws may in some instances cause an unnecessary expense to the roads. This is due to the illogical attitude of legislatures who provide a commission to regulate public utilities, and then invade the field of the commissions work by enacting specific regulative laws. The Utility Commission should have reserved to it the power to regulate the size of train crews in accordance with local and existing conditions with which they are familiar. The size of train crews should not be determined in an arbitrary manner by legislators unfamiliar with the conditions. This is going back to the broken-down method of attempted regulation by unwieldy legislative bodies.

But this is without question a temporary condition and therefore a comparatively unimportant one. It is unbelievable that legislatures will long persist in this apparent fallacy. It is to all appearances just one of the kinks in this comparatively new

Hughes

system which will be straightened as soon as it becomes obvious enough.

The fact is beyond question that railway travel in the United States is becoming safer year by year.. In 1900 one passenger was killed to 16 billions persons (approximately) carried one mile. In 1914, 35 billion persons were carried one mile to each passenger killed. (a)

A comparison with conditions in Europe will indicate that American railroads have been run on the "haywire" plan. It is a well known fact that the cost of constructing the railroads in the United States has been much less than it has been in most European countries. (b) Some of this great difference is, of course, due to difference in geography and topography, but perhaps an equal amount is due to the difference in the ~~in the~~ standards of construction. In America most of our mileage has been built in "boom" times with a rush and a hurry. The idea was to get the rails laid in some manner and to commence carrying freight and passengers at the earliest possible moment. Much of the line was built hurriedly and cheaply in order to secure concessions, and land and money subsidies. Little attention was paid to building for safety or convenience of operation. Accident, death, and damage, claims were fought in the courts and paid as a last resort. These costs were a regular and large portion of the expense of operation. It was considered more economical to run along under this policy than to expend large sums of money to out the roads in a condition to avoid much of this damage and death.

(a) "The Railway Library" S. Thompson. Bureau of Railway News and Statistics, 1914, page 436.

(b) Supra, page 388.

Ne 7, 52

Most European roads have been built slowly and with an idea of permanence, and safety, and convenience of operation. Accidents and damages were to be avoided, instead of accepted and paid for as a matter of course.

In 1904, on 189,806 miles of European railroad there were 4995 fatal accidents - about 38 per mile of road. The same year in the United States on 230,580 miles of road there were 10,046 fatal accidents - one to each 22 miles of road. (c)

By 1913 the number of fatal accidents in the United States had decreased proportionately, when again compared with the number on European roads. For 1913 the figures are: 212,425 miles of railroad with 7928 fatal accidents - one fatal accident per 27 miles of road operated. For the United States, 246,816 miles of road and 10,185 fatal accidents - 24 miles of road for each fatal accident. (d)

This relative and absolute decrease in fatal accidents in the United States is a very conservative indication of the conditions in regard to minor and non-fatal injuries. These have decreased in relative number even more rapidly than the fatal injuries.

Can there be any doubt but that the 47 million dollars (according to the statement of the carriers in the Wall Street Journal, supra), which has been expended for interlocking devices, derailling installations, and other safety appliances, shorter and therefore more efficient working hours, sufficient train crews, etc., has had much to do with causing this well known increase in safety of operation and convenience to the public !

(c) Supra pages 354, 435, 344.

(d) Supra.

This money has, and is, being expended to bring a poorly constructed and cheaply built system (e) up to such a standard that it can give the kind of service which the present generation is strongly demanding. The time will come when the roads will have been brought up to this standard and the safety devices and standards of service now being secured thru mandatory Commission orders will be furnished as a matter of course and voluntarily as a part of normal service. True, standards of service will not stand still but will rise constantly. But from consideration of the very recent attitude of these utility companies and the increasing power of the regulative commissions, I feel assured that within a comparatively short time the kind of service offered by the utilities will practically approximate what the public is demanding. Under such conditions the idea of charging installation of safety devices and expense of improved service to "Cost of Regulation" will appear as ridiculous as charging coal used in locomotives to the "Cost of Regulation." Five dollars expended in securing a safer train ride is just as legitimate a charge against cost of service as is five dollars spent for a ton of coal used in pulling the train.

"Mr. Poor said in 1885 that the actual cost in money of all railroads in the United States did not exceed \$3,787,000,000, and that the fictitious capitalization was \$3,708,000,000". (f)

In the same address Mr. James calls attention to the fact that most American railroads were built at a cost of from one-third to one-half of what it cost to construct European railroads and that in many instances the public granted money and land enough to construct and stock the road. "Such roads should be carrying freight

(e) There are admitted exceptions to this statement, especially in New England but they are comparatively unimportant.

(f) 1887. James, before the American Economic Ass'n, Boston May 21-25

and passengers for the mere cost of moving them." (g)

The fact that we have not been getting even a reasonably high class service, in many respects, accounts for the fact that many utilities have been able to produce such excessive profits and bonuses for promoters and managers, and to pay dividends on huge quantities of "watered" stock. Had these large "plums" been used to improve the equipment, and only a reasonable and legitimate return extracted by managers and owners, the utilities would now be equipped to give a standard of service far above that being demanded through the commissions.

(g) Supra.

VI. VALUE OF WORK OF REGULATIVE COMMISSIONS.

In General. According to the writer's conception of the subject the legitimate items in "Cost of Regulation" consist of all administrative expenses of the various commissions, i. e. Salaries of commissioners and all employees, office expense, traveling expense, legal expense, etc., - in fact the amount appropriated by the government and expended by the regulative bodies.

I shall attempt to analyze the work of the existing commissions under various headings to see if the services they are rendering are worth five and one half millions a year.

Arbitration of Disputes and Prevention of Rate Wars: The Railroad Commission of Indiana has this to say in regard to its services in settling disputes out of court:

"The public has been benefitted in many more ways than we shall be able to mention here, chiefly, we shall say, in having a tribunal, with very comprehensive powers, to appeal to; an organized body whose offices are always open, ready to receive and promptly act upon any application within its authority. Overcharges and car shortages, insufficient train facilities and grievances of many kinds have been corrected by the commission, sometimes by telephone or telegraph, within a few hours after the matter was presented to it. Defects and neglects, that might have caused accidents, have, upon the reports of our inspectors and our recommendations, been promptly taken up and remedied.

Depots, stock pens, and other structures have been constructed, and depots, closets, and trains, lighted and heated and made sanitary. Defects in tracks, bridges and other structures have been discovered and corrected, and many obstructions, overhead and lateral, have been discovered and removed.

"The best part of our work may turn out to be the restoration of harmony between carriers and shippers. This commission does not pass an opportunity to bring about adjustments. We have found to our surprise, that some applications for relief have been made to us before the carriers have been approached about them. We have discouraged proceedings of this kind, and if both parties coming before us will yield to the good offices of the commission, which we shall use to bring about adjustments on fair terms, there will be few public hearings by this body. All this presumes, of course, that the officers of the carriers, especially those with whom we come in contact, will heartily cooperate with us. Most of the railroad attorneys and officials in this state recognize the efforts of this commission to place upon railroad operation and traffic within the state a fair and just system of regulation." We quote from ^{one of} the highest railroad officials, who recently affirmed: "It seems to me that the administrative and legislative bodies representing the people and the railroad managers representing the stockholders should not resort to insane opposition, but to sane cooperation."

(a)

In the first report of the Iowa Railroad Commission after the lowering and fixing of rates in 1899, the following summary

(a) Railroad Commission of Indiana, Report for 1907, pages 6 & 7.

of the social benefit to the state of one phase of the commission's work is commented upon: "There have been no rate wars and consequent disturbance of business in Iowa the past two years. The stable character of Iowa rates which have been in force, with only such slight changes which have been made in classification from time to time, is approved on every hand. While rate cutting has been in vogue in states around us and the troubled waves have surged up against our very borders, wasting the energies of the great corporations and the revenues of the stockholders, Iowa has been largely free from the devastating and demoralizing influences; and with the curtailing of rebates, secret rates, free passes, and other special privileges which the few formerly enjoyed at the expense of the many, there has followed steady rates and increased revenue, more than sufficient to make up for any deficiency caused by reduction of local rates. The evil effects of rate wars on business are also unknown here and instead we have steady rates and uniform charges shared alike by all." (b)

There can be no question but that the settlement of disputes without recourse to costly and slow litigation is a great social saving. The time, money, and energy expended in this method of settlement is non-productive and usually does not aid in establishing privileges of right or justice. The disputes are many times in regard to questions of fact and the final decision is frequently in favor of the party who finds it possible to persist longest or secure the best legal talent. The various regulative bodies in this country are each day settling in a speedy and informal

(b) Iowa Railroad Commission, Annual Report, 1891, page 9.

manner hundreds of disputes of greater or less importance, which if not so taken up would furnish the sparks to light huge conflagrations of litigation. The legal expense on the side of the utilities is, of course, paid for by the public as a part of "Cost of Service." The social saving to shippers and utility corporations through this phase of the commission's work cannot, of course, be estimated, but it impresses us as a very large one.

On a par with this matter in its useless infliction of loss to all parties concerned, are the destructive rate wars. Service rendered at cost or below cost by companies engaged in "cut-throat" competition, must be paid for some time and some where. Either patrons of the utility in other localities are paying for it contemporaneously or the successful organization makes it up in increased rates when its competitors have been destroyed. Rate wars like other kinds of wars are, as a whole, primarily destructive, though they may bring great benefits to a few.

Prevention of
Stock-Watering:

As has been indicated before, American utility companies have in the past undoubtedly issued much "watered" stock. (c) The evils of this practice are very apparent and numerous. Much fraud and manipulation has been possible through the existence of these huge quantities of "water"; Mr. Poor's idea in 1885 was that the then existing railroads had inflated their capitalization by 100 per cent. (d) Utilities are now demanding that rates to be reasonable must pay a fair rate on capitalization - no matter how much of it may be water. There is

(c) See Chapter II, Sec. 6.

(d) See Chapter V, page 61.

not necessary

a strong feeling that this water should be eliminated, but we have been unable to hit upon a way of doing it without doing a grave injustice to a large number of people. (e) Who can doubt that if the commissions can prevent future inflation, as they seem to be doing, the public will have been rendered a very material and valuable service? It seems very probable that the saving from this source alone has been very considerable. Had the issuance of the almost four billions of water mentioned by Mr. Poola (f) been checked by commissions they would have justified their financial cost for a long period.

Collection
of Data:

Mr. Wm. Anderson, speaking especially of the New York commissions in 1913, says: (g) "The practical objects for which the commissions were created have been in large part attained. Service has been improved, prices have in many cases been reduced, stock-watering has been prevented, avoidable accidents have been reduced in number. . . . The service corporations no longer invade the individual's rights to life, liberty and property, as before. Nevertheless the work has just begun, and it cannot yet be said that all men are wholly satisfied with the conservative attitude of the commissions.

"The New York commissions are both great research laboratories, and they are gathering continually exact information about the history, financial status, and management of the various corporations under control. Expert assistants are constantly improving

(e) See Chapter V, Sect. 6.

(f) Supra.

(g) "The work of Public Service Commissions." Prize essay in the Harris Political Science Prize Contest for 1912 - 13.

methods of operation and management for the utilities. This information is published and distributed to all who are interested. The public is being educated and the corporations are being taught greater efficiency, and these two results are truly of great value, though they go almost unnoticed."

The importance of scientific research and its aid to the business world is seldom if ever appreciated. It seems very reasonable that a regulative commission with its broad jurisdiction and multitudinous experiences with various utilities of the same or different types, should be in a position to arrive at generalizations and methods, of great use to the companies it is supervising. Any increased efficiency secured in this way should be clear gain.

Discovery of

Taxable Values:

The American Land and Personal Property Tax is notorious for its looseness of administration. Innumerable instances have proved to us that much taxable property escapes the assessor. The more nearly complete we can make our assessment rolls, the more equitable and just will our taxing system become - to the great increase of social welfare. The Nevada Railroad Commission submits some very definite facts on this subject :

"During the last three years upon the basis of data furnished by the Railroad Commission, railroad and other public utility valuations for taxation have been increased about \$17,000,000 annually. These increases could not have been made except through the work of these commissions. Assuming the state, county, and municipal taxes to average 3-1/2 per cent, we have here increased valuations to a sum which will produce \$425,000 a year in taxes - twenty-three times the cost of the Commission. With a rate of sixty cents

on the \$100 valuation this will add \$103,000 annually to the revenue of the state - more than five times the cost of the commission. As a cold business proposition the Railroad Commission of Nevada has certainly been a success." (h)

Improvement of Service
and Safety of Operation:

Much has been said elsewhere in this paper on the work of the commissions in improving the quality of service and increasing the safety of operation of all public utilities, more especially (i) the railroads.

Commissions have in hundreds of instances ordered more frequent train service, improvement of sanitation in coaches, waiting rooms, toilets, etc., the building or improving of stations, and dozens of other things that go to increase comfort and convenience to the patrons of public utilities. Practically every regulatory body has mandatory power over these matters and is willing to grant hearings for their consideration at any time. Surely improvement in these matters is a valuable function of commission work.

Improving the safety of operation, has without question been one of the phases of commission work which has taken the most time and attracted most attention. The bare fact that the railroads state that they have been caused to expend forty-nine millions of dollars in this field alone indicates the magnitude of the commissions' work along these lines. The noticeable decline in accidents and injury to life and property is in no small part due to the commissions' insistence on the use of mechanical

(h) Nevada Railroad Commission Report, 1913, page 8.

(i) See chap. II, sect. 3 and 5.

safety devices and to the teaching of precautionary measures. Aside from the financial value of the life and property saved, the suffering and misery which has been prevented is not inconsiderable. The instance is cited in a commission report of an order to an inter-urban railway company to equip cars with a certain kind of safety-fender. It complied under pressure. After a few months of operation a letter from the railway company was received stating that through decrease in accident payments they were many thousands of dollars ahead, because of the use of the required device. Instances of this sort could, of course, be multiplied to show much financial gain through increased safety of operation. The utility companies are now convinced of the fact that prevention of accidents is "good business," and their cooperation in this work can usually be depended upon.

Removal of Public Utility
Companies from Politics:

The Tennessee Railroad Commissioners in an Annual Report have given a very clear exposition of the value of their work in taking public utility questions out of politics.

"The commission has been able to render valuable service to both railroad and the shippers in settlement of controversies which formerly were a source of injurious agitation. Citizens who felt that they had a just cause of complaint against the railroads, as long as they had no tribunal to which they could go for relief, carried their grievances into the political arena and inspired legislation which was conceived in a spirit of hostility to the railroads; and the railroads in turn, were put to heavy expense in the effort to defend themselves against unjust legislation. Since it has become generally known that the commission will

L. N. Ross Dept 9500

hear and adjudicate complaints on their merits, those who have complaints to make against the railroads file them with the commission, and they are adjusted in a manner usually satisfactory to both parties, and where the action of the commission is not satisfactory, resort may be had to the courts. (j)

This is surely a social saving worth considering.

Reduction
of Rates:

In 1889 Iowa through its Railroad Commission materially reduced the freight rates within its borders. Ex-Governor Larrabee has the following to say in regard to the results: "From July 1st, 1889, to June 30th, 1892, the gross earnings of the Iowa roads, which for three years have been at a standstill; increased, and were over \$7,000,000 more in 1892 than they had been any year previous to 1889, as will be seen from the table below:

1886-87 - - -	\$37,539,730	1889-90 - - -	\$41,318,133
1887-88 - - -	37,295,586	1890-91 - - -	43,103,399
1888-89 - - -	37,469,276	1891-92 - - -	44,540,000

The net earnings per mile of the Iowa roads were \$1421.91 in the year 1888-89, and \$1831.37 the year following. The total net earnings of all Iowa roads during the year ending June 30th, 1891, were \$14,463,106, against \$11,861,310, during the year ending June 30, 1889, and were still greater for the year ending June 30, 1892. No further vindication of the Iowa law is necessary. These figures show plainly that the lowering and equalizing of the rates, not only increases the roads business and income but also their net earnings. And it must be remembered that the reports showing these facts were made by the railroad companies and were certainly not made with any purpose of prejudicing the

(j) Tennessee Railroad Commission Report, 1911-12, pages 3 and 4.

cause of the railroad managers. Still better results could have been secured if the railroad managers had been in sympathy with the law. There is no doubt that they would gladly ^{suffer} or, rather, have their company suffer the loss of revenue, if this would lead to a repeal of the laws and restore to them the power to manipulate rates for their own purpose. (k)

The Nevada Railroad Commissioners have presented some interesting statistics as to the financial saving to the people in their jurisdiction thru rate regulation by the Commission.

"The railroads themselves have, during the pendency of the Fourth-Section cases, made substantial reductions in rates upon a large number of commodities moving westward into Nevada, which reductions have heretofore been estimated to amount to approximately \$50,000 per year. With the final settlement of the Reno case ***** this commission has estimated that the saving to the people of the State of Nevada in the matter of freight charges will be in the neighborhood of \$500,000 per year, over and above all reduction heretofore named. But this means a great deal more to the state in a business way than the mere amount saved in freight charges. Obviously, excessive and discriminatory charges for the transportation of freight retard the progress of any state or community subject to such charges and discrimination. It is not possible to figure out in dollars and cents what the ultimate effect will be upon business conditions in Nevada of the establishment of freight rates which would relieve the state from the disadvantage under which it has labored by reason of the discriminatory charges to which it has been subjected for so many (k) "The Railroad question" page 265, ff.

long years. We only know the effect must be very marked and highly advantageous. (1)"

"According to the best estimates that we are able to make, the railroad and public service commissions together have effected reductions in passenger fares, freight rates, and the charges of public utilities amounting to approximately \$640,000 per annum. The total expenses are \$25,000 per annum for the two commissions. From this it will be seen that for every dollar the two commissions cost, the people are saving about \$30.00. (m)"

The writer believes that the Nevada Commission has called attention to a matter of considerable importance in its reference to the influence of railroad rates and service upon ~~the~~ development of a locality. If it had not been for the introduction of a cheap and rapid means of transportation large portions of the United States would without question be still in the wilderness state. Discrimination in rates and service toward any locality undoubtedly has a similar tendency - to prevent its commercial and industrial development. The material benefit to a territory of just and equitable rates from the railroad is surely a matter of great material as well as social magnitude. Discriminatory or exorbitant rates have the same effect as the tariff wall or geographical obstacles in isolating a locality and preventing its normal development.

The removal of this obstacle to normal and rapid commercial and industrial development of the newer sections of our country, impress me as one of the most valuable phases of commission work.

(1) Nevada Railroad Commission Report 1913, page 9.

(m) Nevada Railroad Commission Report 1914, page 10.

VII. LIMITATION OF COMMISSION WORK THROUGH
INSUFFICIENT FUNDS.

In the past and in some instances at present, commission work has been hampered and its possibilities undeveloped by niggardly appropriations. That this is true in spite of the rapid increase in these expenditures, as indicated in Chapter IV, will be shown by quotations from official reports of these commissions. The Nebraska Commissioners made the following statement in 1909:

"To accomplish its work properly the commission should have the most detailed information and the most expert advice. This is particularly true of the questions involved in stock and bond issues, and rate investigations and litigations. These questions involve amounts of great proportions and deep concern to the state, and this department should not be embarrassed and deterred in securing all the information it deems necessary or of probable value in obtaining beneficial results by the fear that the amounts appropriated will not be sufficient to cover the cost of any and all investigations or examinations it believes should be made -- future legislature should appropriate an amount sufficiently large to free the Commission from the necessity of having to choose between one or two or more investigations and examinations, when all are deemed necessary or of value in carrying out the work." (a)

That the limitation from lack of funds has not been wholly eliminated is indicated by a comparison of recommendations in the New Jersey reports for 1907 and for 1912:

(a) Nebraska, State Railway Commission Report, 1909, page 27.

A statement from the New Jersey Report for 1907:

"The appropriation made under said law is insufficient to provide for the permanent employment of such engineers of high-standing and recognized ability, and it is believed that engineers without these qualifications should not be employed.

"Additional expert assistance, no matter how advantageous its service would be, could not be employed under the limited appropriations now allowed by law." (b)

Remarks of the New Jersey Commission in 1912:

"The last legislature did not allow for the present fiscal year the \$100,000 named in the statute, but cut this in the appropriation bill to \$75,000 --- unless the legislature supplements this appropriation the Board will, before the end of the fiscal year be without funds to maintain its organization, and be unable to continue its work --- there must be a removal of the statutory limitation of \$100,000, and an additional appropriation made if the Board is required to take over additional functions and perform additional duties. Unless the means be provided for defraying the costs of extensive inventories, rate making cases depending upon such inventories must be inevitably delayed to the annoyance of all the parties in interest." (c)

The New Hampshire Commissioners in 1912 have the following complaint to make:

"The appropriation ^{for salaries} for the years 1911 - 13 was \$12,000 annually, the legislature having fixed the salaries at \$4,000 . In the last few hours of the legislative session, however, the act was so

(b) New Jersey Railroad Commission's Report, 1907, page 17.

(c) New Jersey Board of Public Utility Commissioner's Report, 1912, page 14.

amended so as to reduce the salaries to \$3,500 for the chairman, \$3,300 for the clerk, and \$3,000 for the third member of the commission. The legislature in fixing the salaries had assumed that the work of the commission would take from one-third to one-half the time of its members. It has, in fact, taken practically all their time --- The commission should devote a good deal of uninterrupted time to study of the decisions of courts and commissions elsewhere, standard works on questions of public service regulation, and technical magazines and other periodicals, and in general should keep themselves up to the times in all matters relating to their work." (d)

The following statement from the Railroad Commission of Louisiana in 1907 throws light upon the conditions in that jurisdiction at this period:

"However, it [The Railroad Commission] has not received in the past sufficient appropriations to properly carry on its work. It is of paramount importance to the people of Louisiana that the provision should be made at the earliest possible moment for the employment of a special attorney, acting as an assistant to the Attorney General, to attend to the litigation in which the Commission is constantly involved. The success and usefulness of the commission depends largely upon a prompt dispatch of its business -- the Attorney General's office --- has been unable --- to give to the Commission's cases the speedy attention which all matters pertaining to transportation deserve. Consequently, disputed orders of the

(d) New Hampshire Public Service Commission's Report 1912, page 23, Vol. 2.

Commission remain often too long undisposed of --- at the expense and the continual detriment of the public, thereby subjecting the commission to unfair and unjust criticism.

"The appropriations made for the commission have been so meagre as to almost prohibit any extension of its work. It is important that frequent trips of inspection be made. At least \$2000 a year should be set aside for this purpose alone. The amount appropriated for the office expenses of the commission by the last legislature, \$500 annually, has not met the expenses of the office whose correspondence now reaches annually over 20,000 letters *** no other department of the state's government performing as much routine work, receives as small an appropriation, and the volume of the work now being done by the commission demands that the present appropriation be doubled, and that ample provision be made for clerical force."(e)

"That the same body felt it was still hampered in its work thru lack of funds is shown by its official recommendation in 1912:

"The commission appreciates the necessity of making frequent inspections of railroad properties under its control, but lack of funds has prevented them from making such inspections. The interests of shippers require a close watchfulness over the many cases coming before, and the investigations made by the Interstate Commerce Commission, involving interstate rates and practices. A representative of the commission should be present at many of the hearings before the Interstate Commerce Commission. The interests of the individual shipper in the momentous problems which are frequently discussed before the Interstate Commerce Commission is

(e) Louisiana Railroad Commission, Report, 1907, Page 16 fl.

too small to warrant him in having a personal representative. The Commission's special counsel should be present at these hearings, and funds should be provided for the expenses necessarily incurred in carrying on this work." (f)

A study of the specific amount of annual expenditures permitted the various commissions (Plate II) will impress one that in many instances the sums are ridiculously low, and far from sufficient to permit efficient work. The average annual expenditure of the states, for regulation of public utilities in 1907, was about \$25,000. By 1914 it had increased to approximately \$76,000. These are only averages and are rather disproportionately inflated by the very large expenditures of such bodies as the New York Public Utility Commission. In 1907 some bodies were running along with total expense accounts of less than \$6,000 per year, and \$10,000 to \$15,000 per year was a common expenditure. In 1914 the smallest total expenditure was about \$11,000.

When the needs of the commissions are considered an average expenditure of \$25,000, or even \$76,000 per year does not seem excessive. In order to get men of ability and character good salaries must be paid to commissioners and employees. Under the heading "I. C. C. man to join Great Northern staff", the following item appeared in the Minneapolis "Journal" for March 7th, 1916: " F.A. Barnes, assistant chief examiner of the interstate commerce commission, has been appointed assistant controller of the Great Northern Railway. The appointment was made by Controller G.R. Martin and is effective immediately. Mr. Barnes was with the commission

(f) Louisiana Railroad Commission Report, 1912, page XVIII.

six years, prior to which he was with the Erie Railroad."

"The Oklahoma Commission in 1911 make the following statement:

"The commission first employed Mr. Henry Willmering as the head of the auditing department. After about three years' service, outside interests offered him permanent employment with a forty per cent increase in salary and a bonus of several thousand dollars and he left the employment of the commission. His salary having been fixed by the legislature, the commission could not meet the price offered." (g)

"These items are typical indications of a general condition. Because of rather limited funds the regulative bodies are unable to retain their most efficient and valuable commissioners and employees. After receiving a valuable training at the expense of the state these men are 'picked off' by public service corporations. To secure and retain these efficient men which it has trained, a commission should be able to offer inducements on a par with those offered by the commercial organizations. Too often the less desirable men are left with the regulative bodies and the keener ones snapped up by the corporations. Thus clever corporation officials are enabled to over-reach the mediocrity of the commission's personnel. To do the best work the personnel of the regulative bodies must be made up of as good men as are in the employ of the utilities. 'Pygmies cannot control giants.'" (h)

There are indications that improvement in the salaries paid to commissioners and employees is being gradually brought about

(g) Oklahoma Corporation Commission Report, 1911, Page 13.

(h) Dr. J.H. Gray "Expert (or opinion) Testimony in Rate Valuation Cases" before the Conference on Valuation, Philadelphia, November 10th to 13th, 1915.

One very low commissioner's salary being paid at present in in South Dakota -- \$1500 per year. The most recent legislation indicates a tendency to provide better pay for commissioners; Illinois and Pennsylvania have recently raised commissioners' salaries to \$10,000, Massachusetts to \$8,000, Indiana, Ohio, and West Virginia pay \$6,000, Missouri \$5500, and Idaho \$4,000.⁽¹⁾

A member of the investigation committee of the National Civic Federation visited the offices of the Texas Railroad Commission in 1913. There he found the chairman of the commission laboriously writing out in long-hand, commission orders to be sent out to all the railroads of the state. The body had no funds to hire a stenographer to do the work.

The necessity for investigation of accounts and equipment, the employment of experts and engineers, the organization of good filing systems and libraries of reports, maps, etc., has not been fully realized by legislatures. As a result many commissions have been foolishly hampered by refusal to appropriate more than a fraction of the funds necessary for adequate work. This lack of financial support, without doubt, accounts in some measure for unsatisfactory work of the commissions in a few jurisdictions. Poverty stricken and ill-equipped regulative bodies cannot be expected to do efficient work in controlling public service corporations who are willing to expend large sums in employment of talent and means to resist this regulation.

But it looks as though this condition is steadily being remedied. With increased education of the public in regard to the

⁽¹⁾ I. L. Sharfman, The Annals of the American Academy of Political and Social Science, May, 1914).

value and importance of the work being accomplished by the commissions, has come added willingness to provide adequate financial support. There is no question in the writer's mind but that the commissions have many times repaid their cost ----- in money actually saved to the public. There has also been a vast amount of social saving and intangible benefit to society which cannot be definitely estimated in money, but which nevertheless is of large proportions.

VIII. CONCLUSIONS.

To justify the existence of Public Utility Regulative Commissions two facts must be established: (1) That the social benefits accruing from their existence and work at least equals the social sacrifice necessary for their establishment and up-keep. (2) That they represent the most efficient and economical known method of accomplishing this work. Broadly speaking, the work of the commissions can be divided into two classes. The first class of work consists of all effort which results in an increase in the total social product. The second embraces whatever is done to secure a more just and equitable division of the existing social product. It is an economic truism that the welfare of a group does not so much depend upon the amount of the total production, but upon the method of its distribution. The incentive of personal interest will, under present conditions, provide for the necessary increase in production. This same motive, also, is an obstacle to such a distribution of the product, that the best interests of society will be served.

All of the work of the commission which prevents loss and damage to life and property is socially productive on a large scale. To prevent the destruction of that which has already been produced at a cost of human energy and sacrifice is equivalent to the production of an amount equal to that saved. Economically speaking, human life is^a rather valuable commodity. If safety devices and methods ordered by Public Service Commissions prevent the loss of a couple of thousand lives annually, the actual material gain to the community is represented by many thousands of dollars. Tens . . .

of thousands of non-fatal and minor injuries are eliminated each year thru the work of these bodies. The cash value of the human energy and productive time thus saved is another large item. The immense amount of suffering and and mental and physical agony saved cannot be capitalized, but it surely should be considered a material benefit. The destruction and damage to property prevented by safety regulation adds another large amount to the credit side of the ledger.

Improved and more efficient methods of operation evolved by commission experts, thru familiarity with large masses of data and the study of a large field of operations, enable public service companies to make appreciable savings in the cost of production of commodities.

Regulative bodies prevent the wastage of vast quantities of labor and capital in non-productive legal fights and destructive "cut-throat", competition. (a)

This perhaps sums up the phase of commission work which is socially productive. Any attempt to summarize its value per annum in dollars and cents would be ridiculous. However, with those familiar with the subject the impression lies that its value must make up no small part of the present annual expenditure for regulation.

Any attempts at valuation of the efforts of regulative commissions to secure a more just and equitable distribution of the social product immediately surrounds us with still more intangible and subtle factors. The reduction of rates, prevention of stock-watering, discovery of increased taxable values, and the removal of the (a) Chapter VI, Sect. 2, Supra.

In our strenuous attempt to put our political life upon a higher plane the absence, or at least decrease in influence, of these material and selfish interests has been a great aid.

There is another sociological principle which is practically undisputed in the present age. I refer to the doctrine that it is socially worth while to protect the weak from unjust aggression by the strong. The poor man is, without question, the "weak" man in this perhaps materialistic age. There is no question but that money is power. Without social protection the man of small economic worth would be utterly at the mercy of the man of greater economic weight. Such being the admitted case what is the relationship of the poor man and the rich man to the public utilities

Percent of Family Incomes
Spent on Utility Service:

<u>Annual Income:</u>	<u>Per cent for Utilities:</u>
\$500 - \$800	26 <i>of 26%</i>
800 - 1000	23 <i>of 23%</i>
1000 - 2000	19 <i>of 19%</i>
2000 - 4000	15 <i>of 15%</i>

(d)

The utilities considered in the above table include telephone, electricity, gas, water, street cars, and railroads.

From this it will be seen that as a man's income grows he spends a less and less proportion of it upon services furnished by public utility companies. The ordinary laboring man with an income under \$800 is dependent upon public utilities for over one-fourth of the necessities of life. Regulation aims, and to a large extent succeeds in securing these utility services at a rea-

(d) S. S. Weyer, "Regulation, Valuation and Depreciation of public utilities" page 32.

sonable rate and in a safe and convenient form. Proportionately, then, the classes with small incomes secure more good from the benefits of Regulation than do the classes of higher economic status.

An appreciation of the magnitude of the public utility business in the United States will enable us to give a more intelligent decision as to whether or not Regulation is worth what it costs.

Value of Public Utilities 1912 (e)

Railroads and Equipment	\$ 16,148,532,502
Street Railways	4,596,563,292
Telegraph systems	223,252,516
Telephone Systems	1,081,433,227
Pullman cars, not owned by R.Rs.	123,562,701
Shipping and Canals	1,491,117,193
Irrigation Enterprises	360,865,270
Waterworks - privately owned ...	290,000,000
Electric Light and Power Plants .	<u>2,098,613,122</u>
Total	\$26,413,339,223.

The above table indicates that the railroads with a value of sixteen billions of dollars make up nearly two-thirds of the utility value of the country. The street railways with four billions, electric light and power plants with two, shipping and canals with one and a half, and telephones with one, represent respectively the next largest groups of utility valuation.

The five and one-half millions now being spent annually for regulation represents .02 of one per cent of the twenty-six billions already invested in the public utility service.

A uniform annual dividend of five per cent upon the total public utility valuation would give a yearly income of about one

(e) "Wealth, Debt, and Taxation" 1913, page 21. Issued by the Bureau of Census.

and one-third billions -- about 236 times the present annual cost of regulation.

The writer feels that the existence of regulative commissions has been justified upon the first of the two grounds suggested at the beginning of this chapter, viz: "The social benefits accruing from their existence and work at least equals the social sacrifice necessary for their establishment and up-keep". In other words, I hold that the facts presented in this paper have demonstrated that the public service commissions have, since 1907, given a return far in excess of their cost.

The other requirement is, "that they represent the most efficient and economical known method of accomplishing this work". I have listed in Chapter I, the four methods of controlling public utilities which have been considered worthy of being tried. Two of these methods, Competition and Legislative Regulation, have so clearly and admittedly demonstrated their uselessness that they need not even be discussed here.

The only alternative then, to the present method of control by commissions, is Governmental Ownership. There is no doubt but that the next experiment will be with public ownership, if commission regulation fails. Public ownership of all public utilities however, is opposed by so many American instincts and traditions and there are so many practical obstacles to its establishment, that whatever may be its status in the future it has little immediate chance of being tried on a large scale. The question of the relative desirability of Commission Regulation and public ownership is too large a problem to attempt to settle here. The conclusion which I wish to express is that Commission Regulation is by far

the most successful of any methods of dealing with public utilities, which have been tried, or stand any chance of being tried in the immediate future.

A substantial portion of persons familiar with the public service question feel that Commission Regulation has come to stay. President Vail of the American Telephone and Telegraph Company has remarked in an official report, (f) "Public control or regulation of public utilities by permanent commissions has come, and come to stay". The number of public utility officials who favor Commission Regulation is rapidly increasing. They first appreciate the fact that successful regulation is the only thing which can save their organizations from being taken over and operated under public ownership, and secondly they gradually begin to see that regulation can after all be just, and even beneficial to themselves. It may be that our method of organization will undergo a radical development before Commission Regulation acquires a permanent form. There is a strong possibility that to avoid conflicting orders and ^{unn-}necessary duplication of organization, federal regulation will almost entirely supersede the present state and federal regulation. However, these are merely details of organization and do not affect the principles upon which commission regulation is based.

Mr. Wm. D. Kerr's summation of the future of Commission Regulation very definitely and clearly expresses my conclusions on this subject: (g)

"What may now be said about the future of public utility regulation ? *****

(f) Annual Report, American Telephone and Telegraph Company, 1910.

(g) "Future Regulation of Public Utilities," before the West Side Y. M. C. A. New York City, 1914.

"The first factor for us to consider is the attitude which the companies themselves to be regulated display toward regulation. The companies must meet regulation fairly; to use a popular expression, they must meet the commissions with their cards on the table, face up. In no other way can regulation justify itself;. In no other way can regulation accomplish the ends which are expected of it. And we are fortunate to be able to say that in the majority of cases the companies of this country, all over the country, are meeting the commissions fairly and in the spirit of working out problems, admitted problems, known to exist, in a fair, open, and honest manner, conducive to the comfort, convenience and welfare of the public. That is one factor.

"The next factor - perhaps it should have been the first - is the education of the public. The public must know what it is dealing with in these matters, and the public must bring its knowledge to bear in a way which will produce results thru the bodies which are established for the purpose. The intelligence of the public must be represented in the first place in the legislative enactment of laws. These laws must be drafted in such a way as to leave no questions about the authority which is conferred upon the commissions, and give the commissions the opportunity to discharge their proper functions. The intelligence of the public must be developed to the point where men of the right character, men of the right standing, will find it attractive to serve on the Public Utility Commissions.

"The commissions must be supplied with facilities to enable them to carry out their functions. They must have experts, they must have staffs of various kinds, they must be provided with funds

to enable them to cope with any situation which may come up. The investigations are expensive and the state cannot expect to regulate public utilities in accordance with the requirements of modern day problems, without spending large amounts of money. But measuring the amount of money spent against the investment in the business, it is not large.

"The future of public utility regulation is the future of the democracy. We, in this country, are in the midst of the greatest experiment in democracy that has ever been attempted **
***. The American people are wide-visioned enough, intelligent enough, and sympathetic enough to solve the problem of democracy. But they will solve it themselves; the solution will not come from without but from within the ranks. So with the regulation of public utilities. It is a system which is in its infancy. It is designed to promote the comfort, convenience, and welfare of the public. As an instrument for the furthering of such a high purpose it is an experiment, but an experiment which there is every reason to believe will prove successful. The problems are complex and difficult but no more so than many others. We hope and believe that regulation will continue increasingly to merit the confidence which is imposed in it and that before the lapse of many years the wisdom of the American people in developing this new type of governmental agency will have been demonstrated beyond doubt."

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