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Paul Howard Douglas, the economist.

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PAUL HOWARD DOUGLAS, THE ECONOMIST

by

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Chapter I

INTRODUCTION

A. Importance

It is rare when one finds an outstanding scholar climb down from his "ivory tower" to enter the hard-boiled, rough-and-tumble game of politics. It is even more of a rarity to view an over-aged man of fifty years with many physical deficiencies and a belief in the religion of the Society of Friends entering the military service in the lowest rank and emerging a wounded hero. Again it is unusual to see an erudite liberal writer who castigated the Democratic Party as being one controlled by irresponsible backward Southern conservatives, corrupt urban bosses, and wealthy Raskob interests and who pleaded for a Third Party to enter the political field become an outstanding leader in the Democratic Party. A rare and unusual man indeed is Paul Howard Douglas.

The name of Paul Howard Douglas is one that is rapidly becoming known and recognized throughout the length and breadth of the United States. The name has been known in economic societies and circles since the publication of his first book in the early Twenties; but to the public-at-large, the name of Paul Howard Douglas has held little appeal in the national press. Then in
1948 the State of Illinois sent the man to the upper house of Congress, and at once the press and the public recognized a man big in stature.

Since 1948, the scholar and economist Douglas has been pushed into the background and a new character has emerged. The press is following every action and word of Douglas very closely as the newsmen see in the man that mystery element of "color." In reports from periodicals throughout the country, Douglas is being hailed as one of the most brilliant "freshman" Senators ever to enter Congress, the Abraham Lincoln of 1950, and a potential White House occupant.

This work is important, I believe, because it is the first written paper which has attempted to piece together the stature of the man Douglas and the economist Douglas. Research on Douglas has indicated that prior to 1948 the books and articles written by him in the field of economics were, in the main, the only record of the man; but since 1948, in many articles concerning the Senator, economics has been cast aside in order to present a biography of his life. Thus, by molding together his economic theories with a study of his background, the true stature of Paul Howard Douglas can more clearly be discerned.

B. Scope of Subject

In the second chapter of this study, an attempt will
be made to present different periods in the life of Douglas which were extremely influential in his development as one of the most important figures in contemporary America. The third chapter of this work is then devoted to Douglas' growth as an economist, from his doctoral dissertation to his ascendancy to the presidency of the American Economic Association. In the fourth chapter Douglas probes into the unemployment question and presents an important contribution to the widespread thinking on this subject in his proposals to weed out the cancers of this economic disease. Then, the fifth chapter offers a discussion of Douglas' work on wage payments, the measurement of the purchasing power of the laboring class, and wage theory. The final chapter attempts to present some conclusions about the stature of the economist and of the individual, Paul Howard Douglas.
Chapter II
THE DEVELOPMENT OF THE MAN, PAUL HOWARD DOUGLAS

A study of Paul Howard Douglas' economics would be incomplete without some references to places and events which were important in shaping his career and personality. It is of great interest to look at the man—aside from his important writings in economics—since he is one of the most versatile Americans of our time. Douglas' stature would be significant if he were to have confined himself to the study, teaching and writing of economics solely; but yet in his background the picture of crusader, fighter, politician, humanitarian is ever present. The past fifty-eight years of Douglas' life have been more fully packed with achievements and merit and controversy than those of most of his contemporaries; yet it is very possible that in the next decade or two the man Douglas may gain fame and position that will dwarf his past standing.

A. Early Years in New England

Paul Douglas' early years were very significant in the molding of his development since they enveloped him with a feeling of rugged independence and aggressiveness. Born in Salem, Massachusetts on March 26, 1892 of old New
England stock of sailors, shipbuilders, and storekeepers, Douglas was indoctrinated in the first years of his life in the hard-working, frugal, realistic Yankee way-of-life. At an early age the Douglas family moved into the sparsely settled backwoods area in Maine. The family settled in a log cabin on a hillside near Moosehead Lake, and lived a pioneer type of rural existence.

The young Douglas was eager to gain an education, but the little rural school had little to offer the keen youth. His stepmother, a teacher, taught Paul his lessons during his grammar school years; and the boy had actually only one term of grammar school preparation prior to his entrance into high school.

Fortunately, a number of the periodicals of the day reached this distant log cabin as his stepmother had as one of her main pleasures the reading of contemporary affairs. The young Douglas devoured all literary material that entered the house and mulled over every article he read. Works by the popular muckrakers of the day entered the cabin frequently and were influential in training Paul's thinking. He was greatly stimulated and excited by the


3 Ibid.

Paul's education might not have advanced in a formal fashion had not the Douglas family moved to Newport, Maine. There much to the boy's delight he could attend the local high school. The young Douglas was an excellent student and aggressively absorbed as much knowledge as was forthcoming in the small-town school. After school hours, he earned money to contribute to the household expenditures by working in the town's express and baggage station. 4

Thus, Douglas' youth was spent in Maine amidst traditional respectable poverty. The meager state of the family's financial resources and his rural surroundings were influential upon his thinking concerning the true value of money. In his speech Douglas retains to this day the accent and flavor of the "downeast." 5

B. College Days

Eager to obtain more learning, the young Douglas prevailed upon his brother to assist him financially so that he could matriculate at Bowdoin College. He needed financial aid for the first year only, however, as he obtained

several odd jobs to pay his way through college. During
the school year he earned money by waiting on table at the
Delta Upsilon Fraternity House and by peddling flavoring
extracts throughout Brunswick, Maine and its environs. 6
During the summer vacation periods he added to his small
resources by working at farming, lumberjacking, and cement-
handling.

Douglas pursued his college education most vigorously
in his quest for learning as much about each subject he
tackled as possible. However, he did not confine himself to
scholarship entirely as he wanted to distinguish himself in
athletics also. Physically large and strong, he became an
excellent center on the Bowdoin football team and an average
pugilist on the boxing squad. Thus, he made his mark in his
undergraduate days as both a Phi Beta Kappa student and an
excellent athlete. 7

During his Bowdoin years Douglas portrayed some of
his later characteristics by being an outspoken reformer
and radical when speaking on controversial issues of the
day. Sumner Pike, present member of the Atomic Energy Com-
mission and classmate of Douglas' at Bowdoin, said of
Douglas that, "If he could find a minority he'd go with it.
...to the left of Eugene V. Debs, who was tried for

6 Sawyer, loc. cit.
7 Morris, loc. cit., p. 107.
something about once every four years." 8

The most significant point in his college years was Douglas' falling under the influence of Professor Warren Catlin of the economics department. The young student found Professor Catlin's teaching most stimulating and decided to make economics his major field of endeavor. Professor Catlin saw in Douglas a keen, analytical mind and urged him to ever broaden his search of the problems of the field. 9 Douglas, ever a realist in his thinking, discovered that in economics he could learn more of the hard facts of money and poverty which he knew so well; he could ascertain why the economic life worked as it did; and, perhaps, he could some day propose methods to relieve the miseries of the ill-fed and the downtrodden.

After graduating from Bowdoin, Douglas received a scholarship for two years study in economics at the Graduate School of Columbia University. He received a degree of Master of Arts there in 1915. In 1915 and 1916 he studied economics as a graduate student at Harvard University. He returned to Columbia later and obtain his Doctor of Philosophy degree there in 1921. 10

9 Sawyer, loc. cit.
10 Ibid.
C. The Effect of World War I

Although a poor country boy, Douglas had managed to obtain his undergraduate and graduate education through the workings of his own scholastic and physical efforts. He had found life during this stage of his development fairly satisfactory.

When the United States entered World War I however, Douglas was confronted with a major problem as to whether he should enlist in the military service or not. In his thinking about the war he opposed the sending of men of the United States to aid the Allied Powers; but he favored granting the Allied Powers our economic aid. He thought that his country could best assist the war against Germany by using our industrial strength to supply the European Allies with guns and tanks and planes.

Thus Douglas did not volunteer for military service in 1917. His mind wrestled with the issue confronting him constantly. Should he follow the dictates of his own opinions about the war, or should he serve his country in whatever course it might take? Finally in the summer of 1918 when the war was nearly at its conclusion, Douglas volunteered for Army service. He was rejected because of defective vision.

In the period between World Wars I and II, Douglas was often harried by reflections of his state of indecision during the national emergency of 1917-18. His pacifistic
approach to the crisis plagued him throughout the years as it was a painful past experience in his memory. When the same issue presented itself once again in 1942, Douglas acted immediately to attempt to erase the past from his mind. Douglas' position in World War II will be discussed in a later part of this chapter.

D. Conversion to Quakerism

One of the most significant factors in molding Douglas' social philosophy was his conversion to the religion of the Quaker. One of his favorite pastimes was reading biography, and he chanced upon The Journal of John Woolman. Douglas was greatly moved by the activities of Woolman, an eighteenth century Quaker who consecrated his life to the persuasion of slaveholders to emancipate their negro slaves. He admired the feeling of love for his fellow man as displayed by Woolman and described him as "a real saint." Thus Douglas converted from the Episcopalian religion to the Society of Friends in 1920. His religious thinking and his outward behavior were greatly affected by his association with the Quakers since he was motivated to treat every man as his brother and to do good works whenever

12 Ibid., p. 107.
possible. Besides the creed of "good works" which finally drove him into politics, Douglas became one free of personal animosity with a feeling of friendliness, love, and pity for all mankind. 13

The Society of Friends supplied Douglas with the inward spiritual grace which would serve him in presenting the outward and visible form of his economic machinery. Douglas has stated, "This I believe to be the central doctrine taught by Christ: that this radiating of good-will makes one a participant in the creative processes of life." 14 Thus through his ardent belief in and practice of the doctrines of the Society of Friends, Douglas has always been able to assume an objective and moderate approach to the controversial maelstroms in which he has constantly flung himself headlong.

E. The Hart, Schaffner, and Marx Prize

A strong influence in guiding Douglas' research in the field of economics emanated from the Hart, Schaffner, and Marx Prize offered in 1926. This men's clothing manufacturing concern had established twenty-seven years before a fund to offer annual prizes on economic subjects "to draw..."

13 Smith, loc. cit., pp. 28-29.

the attention of American youth to the study of economic and commercial subjects and to encourage the best thinking of the country to investigate the problems which vitally affect the business world of the day.\footnote{15}

In 1926 a Committee, a distinguished group of Professors of Economics, acting upon authorization of the donors announced a prize of five thousand dollars for the best original economic work on the theory of wages. Eligibility for the competition was extended not only to American scholars as in previous years, but also to international authorities. Moreover, it was added that, "The prize will not be awarded except for a work of high merit."\footnote{16}

The monetary reward offered for the economic treatise was a large one, and Douglas was determined to try for it. He worked exceedingly hard on his study of wages and submitted a manuscript consisting of three parts: "(1) a history of past wage theories, (2) a more or less original explanation of general wages drawn in terms of relative elasticities of supply, and (3) the theory of occupational and geographical differences in wage rates."\footnote{17}

The Committee received one hundred and thirty


\footnote{16} \textit{Ibid.}

\footnote{17} \textit{Ibid.}, p. xi.
manuscripts from leading economists throughout the world. On March 26, 1927, the Committee awarded Douglas' work first prize by unanimous vote in the international competition. 18

Although Douglas' treatise was considered a great contribution in the field of wages, it was felt to be incomplete and was returned to him for further development and research. Additional time was granted him to test and amplify his significant study. It was not until 1934 that Douglas finally completed his last revision after studying the theory of wages much more extensively than for the original competition manuscript. However, the Committee and the donors considered the experiment worth-while since they felt that Douglas' work "had here aided notably the advance of economic analysis in one of its most difficult fields." 19

F. Liberalism to the Fore

During the 1920's and the early 1930's Douglas' views crystallized into an extremely liberalistic pattern. Although his work as a teacher of economics was patterned in a scientific approach to the economic problems, he was an extremely emotional person and had to become a propagandist and a politician to explain his methods for counteracting the cancers of mankind. He edited *The World Tomorrow,* a

crusading magazine, which espoused nebulously the utopian schemes for a better life by its reformer, socialist, pacificist, and cultist contributors. 

Moreover, Douglas was influenced greatly by his trip to Russia in 1927 as a member of the American Trade Union delegation. His thinking became more anti-capitalistic than ever after viewing the "People's Society" with its government planned economy. He was greatly impressed with the apparent spiritual unity among the masses and felt that the government was protecting the laborer's rights in Russia better than in the capitalistic nations. He prophesied a growing future for the Communist experiment although he was somewhat critical of the lack of political freedom of the people.

During this period while engaged as a young professor at the University of Chicago, Douglas patterned his liberal thinking into the form of a perfect economic society. His radical views espoused an equitable system of distribution, a wage scale that was knotted to the ever-swinging cost-of-living, and an alert government that would move in upon any business that became too large and break it into segments. Douglas was so obsessed with his theories that he would air them before any group, no matter how small, that would listen to his opinions.

20 Smith, loc. cit., p. 29.
In the Presidential Election of 1928 like many other liberals of the era, Douglas voted for Norman Thomas, candidate of the Socialist Party. He would not become a member of the Party, however, since he could not subscribe to the socialist theory of the inevitability of the class struggle. Yet he was an ardent advocate of many socialistic ideas during the 1920's, such as unemployment insurance, state assistance to working mothers, social security, which have since become accepted as proper functions of our governmental economic policy by both the Republican and Democratic Parties.

In 1932 Douglas pushed his program of political reform to its most radical stage by castigating both old American political parties and proposing the formation of a Third Party. He wrote vehemently about the political corruption and Wall Street interests immersed in both old parties' leadership. He decried against the Republican Party for its lack of progressiveness and its interest in protecting the moneyed class; he exposed the leaders of the Democratic Party as corrupt Northern urban bosses inter-twined with the wealthy interests of Raskob, its National Chairman, and the ultra-conservative Southern rebels.


It is significant to note that Douglas is to-day one of the leading members of the Democratic Party and is ever haunted by his denouncement of the Party in *The Coming of a New Party*.

Douglas set forth his proposal to form a Third Party to be made up of farmers, laborers, progressives of the middle class, and socialists. These groups must ally to espouse the will of the common man for economic security and political freedom for the many, not the few; and to cast aside the corrupt and moneyed interests of the decaying old Parties. He stated that "liberals, laborers and farmers need to build up a solid political organization rooted in integrity and principle, which can stand by itself." 26

G. War Clouds in Europe

In 1935 Douglas and his wife traveled to Europe to tour the Continent. This journey was very significant in his ideological development inasmuch as he was able to compare the growing doctrines of fascism in Italy and Germany with the principles of democracy.

In Siena, Italy, November, 1935, Douglas was haunted by the "menace of war" and stated that, "Perhaps there never was a time when the creative aspects of life were more widely menaced by these darker forces than now." 27 He was

awed by the tremendous military machines being erected by Hitler and Mussolini and feared that fascism might be able to subdue western democracy through sheer weight of arms.

Douglas had always struggled with his pacifistic ideas which had forced him to remain aloof from World War I. However, pacifism was smashed for Douglas when he stood beneath Mussolini’s window in the Palazzo Venezia in 1935 and heard the dictator exhort his countrymen to attack the small country of Ethiopia for the glory of fascism. 28

The fascist terror influenced Douglas' thinking tremendously when he returned to the United States. He observed that President Franklin D. Roosevelt was attempting to awaken the country to the fascist threat and to strengthen our foreign policy. Too, he noted that President Roosevelt's "New Deal" economic program was granting the common man some security at home and trying to lift the workers from their position of poverty and instability. Douglas then decided that perhaps a Third Party was not a prerequisite for the uplifting of the common man, and that the Democratic Party under President Roosevelt was using a progressive approach to combat our economic cancers. Thus, the liberal thinker curbed some of his radical plans and ideas and joined the Democratic Party 29 which three years before he

had branded as politically corrupt. The menace of fascism and the low-hanging war clouds were influential in changing Douglas from a radical political and economic theorist into a more practical liberal thinker.

H. The Fifth Ward of Chicago

The Fifth Ward in the City of Chicago has attained special significance in the life of Paul Douglas since it aided in shaping his future. In 1939 this political ward was ruled by the potent Kelly-Nash political machine, as was the entire City of Chicago, and its Alderman was supposed to play the part of puppet for the Bosses.

Douglas had never mixed into active politics since his time was completely consumed in his teaching as Professor of Industrial Relations at the University of Chicago, in his writing of many distinguished scholarly economic works, and in his work as consultant on social security, unemployment, and labor problems. However, in 1939 a group of friends had him nominated as an Independent candidate for Alderman from the Fifth Ward. 30 Suddenly the college professor was precipitated from his Ivory Tower into the rough maelstrom of the political arena. Curiously Democratic Boss and Mayor Ed Kelly supported Douglas as he was

greatly impressed with Douglas' educational stature, so unlike his own, and since he was in need of a liberal to attract the negro and labor votes to his powerful machine. Douglas was elected as Alderman to the City Council by an overwhelming majority.31

Douglas could muster the support of only one other Alderman in the Council and, thus, was usually outvoted by forty-eight to two on any progressive legislation he might propose. However, he made an important contribution to the City of Chicago as Alderman by forging a small independent bloc in the Council and by inspiring a portion of the cynical urbanites to participate in the municipal elections. More significantly, he brought home to the people of Chicago the wretched conditions existing within the metropolis: the inadequate allowances granted for unemployment insurance, the political graft existing in the school system, the disease-infested slums inhabited by the Negroes.32

The excitement of political life stimulated Douglas greatly although he was somewhat dismayed by the many dishonorable rough-and-tumble tactics used by the professional politicians. He was an odd figure in the Chicago political factory since his belief in Quakerism would not allow him

31 Smith, loc. cit., p. 30.
32 Steen, loc. cit., p. 127.
to abuse his tormentors no matter how vituperative their jibes against him became. Yet the hard knocks and pressure of politics were stimulating to him; he thought he might better succor his fellow man by propagating social legislation in lawmaking bodies than by writing scholarly works from the calm of his University office.

I. World War II

The outbreak of World War II afforded Paul Douglas an opportunity to clear his record of pacifism in World War I from his conscience. Now, in 1942, fifty years of age and hampered by faulty eyesight and poor teeth, he did not hesitate for one moment and prevailed upon his friend, Secretary of the Navy Frank Knox, to have him admitted to the Marine Corps as a private. His philosophy of life insisted that he himself should perform whatever acts he thought others should do. 33

The over-age professor was thought of as some sort of an eccentric in his fatigue uniform at Parris Island, but he survived the rigorous and demanding physical combat training of Boot Camp and requested overseas duty. He joined the First Division of Marines at New Britain and then proceeded to the Russell Islands where he became Adjutant with the rank of Captain. He insisted upon going

33 Morris, loc. cit., p. 110.
along with his unit for the assault of Peleliu and fought with such courage that he was awarded the Bronze Star for bravery. Advanced to the rank of Major, he volunteered for stretcher bearer or ammunition carrier duty to enable him to take part in the invasion of Okinawa in May of 1945. The former pacifist participated as a Private first class in the hill-hopping fight against the Japs, and his left arm was nearly severed below his elbow in the fierce battle. 34

As a result of his military experience Douglas underwent five operations during a fourteen months hospital confinement. 35 However, after his discharge as a decorated Lieutenant Colonel, he returned to Chicago with a greater respect for himself as a man. The twinges of concern that had haunted his conscience from his World War I inactivity were cleansed from his soul. He had attained a new satisfaction within himself for having performed a righteous duty alongside of his fellow men.

J. The United States Senate Elections of 1948

While he was engaged in military service, Mrs. Emily Douglas, his second wife and daughter of sculptor Laredo Taft, received the assistance of Colonel Jake Arvey, Cook

34 Morris, loc. cit., p. 110.

County Democratic Boss, and was elected to Congress as Representative-at-large from Illinois. She suffered a re-election defeat in the wake of the Republican landslide of 1946.36

Then when Douglas returned to Chicago, he was extremely anxious to get into politics rather than to devote his energies again to teaching and economic research. The timing of his decision to enter political life in a major position happened to be right since Colonel Arvey, the successor to Boss Kelly, had decided that the sick, unsuccessful Democratic Party in Illinois needed liberal candidates to drag it out of its doldrums.37 Douglas had wanted to seek the gubernatorial nomination, but Arvey convinced him that he should seek the Senate seat.

Douglas as the Democratic Party's nominee for the United States Senate from Illinois was confronted with a seemingly hopeless task of defeating the old Republican favorite Senator "Curly" Brooks, a protégé of McCormick's Chicago Tribune and an isolationist. Overflowing with confidence, vitality, and his love for people, Douglas was determined to stump the state to overthrow the well-entrenched Brooks. In a station-wagon jeep he traveled throughout Illinois making over one thousand speeches to

36 Morris, loc. cit., p. 110.
37 Smith, loc. cit., p. 30.
small or large groups of people in every rural or urban area in the state. In his campaign, Douglas shed his professorial robes and talked to the people in their own language; he ferreted out anyone who would listen to him and explained his political views in a simple, down-to-earth manner. When Brooks called Douglas irresponsible and refused to debate with him, the latter placed an empty chair on the platform and addressed it as Senator Brooks, much to the delight of the audience. Douglas conducted an energetic, earthy and colorful campaign that rewarded him with a tremendous victory over Brooks by more than 400,000 votes.38

Thus in 1948 Douglas came to the fork in the road of his career and turned away from the path of economic scholarly pursuits to the way of national politics. His future destiny would be shaped by his acts and deeds in the arena of Congress rather than by his writings and teachings on economic problems and theory. He had the potential of a great leader because he entered the political scene with the reputation of a distinguished economist, a thoroughgoing liberal, and a figure of great integrity and humility.

38 Smith, loc. cit., p. 31.
Chapter III

THE GROWTH OF THE ECONOMIST, PAUL HOWARD DOUGLAS

Whether Paul Howard Douglas ever will return to his work in economics is questionable since he has succeeded in becoming an important actor on the American political stage. However, for more than thirty years from the time he began his teaching as an instructor at the University of Illinois in 1916 until he was given a leave of absence from the University of Chicago in 1948 to enter the United States Senate, his main preoccupation was in the field of economics. During those years Douglas subjected himself to an oppressive program of unceasing work in teaching, writing and lecturing on labor, unemployment, business cycles, wages, and social security. Moreover, throughout that period he worked on numerous occasions as an economic advisor to both state agencies and the federal government.

This chapter will attempt to lend insight into Douglas' development from a young instructor to his position of highest achievement in economics as President of the American Economic Association. He toiled incessantly to present his beliefs to the world and to accelerate the progress of economics toward a scientific maturity.
A. Doctorate Dissertation at Columbia University, 1921

After graduating from Bowdoin College in 1913, Douglas set out immediately to increase his knowledge of economics, for he had determined to make that subject the major part of his life's work. He enrolled at Columbia University and received his Master of Arts degree from that institution two years later. He then moved to Cambridge and studied as a graduate student at Harvard University during the 1915-1916 academic year.\(^1\)

The young economist commenced his teaching career when he received his first appointment as an instructor in economics at the University of Illinois in 1916. The following year he transferred to Reed College in Portland, Oregon, to serve as an instructor and associate professor.\(^2\) After serving as a labor disputes adjustor with the Emergency Fleet Corporation in the war years of 1918-1919, Douglas re-entered the teaching profession as an associate professor at the University of Washington. The next year the University of Chicago offered him the position of assistant professor of industrial relations, and he accepted that post to begin his long-standing association with that institution.\(^3\)


\(^2\) Ibid.

\(^3\) Ibid., p. 167
During these early years of teaching, Douglas had been doing research for his doctoral dissertation. In 1921 he finally completed his work and was awarded his Doctor of Philosophy degree from Columbia University. This work, *American Apprenticeship and Industrial Education*, was published that same year and proved to be his first major contribution in the field of economics.

In this work Douglas attempted to trace the history of the system of apprenticeship, the process of teaching a minor a trade by having him work with one engaged in the trade, from its birth at the dawn of civilization to the modern era. Through this survey he concluded that apprenticeship was decaying because of "the inevitable specialization of the machine era and by the individualistic conduct of industry...." Douglas exposed the unfortunate plight of the average child in the United States: he was forced to leave school at an early age and then become a drifter from one job to another, from one industry to another, always remaining unskilled and inflicted with the hardships of industrial instability. The unprotected child fell into the class of the unskilled workman when he reached maturity and thus was subject to the miseries of poverty. Douglas said

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5 Ibid., p. 84.
Now it was the function of apprenticeship to protect this adolescent child. It gave him moral oversight and a steadiness of employment. It was a recognition by the state of guardianship over the child. To-day with the breakdown of apprenticeship we allow the child to shift for himself. We allow him to drift into employments that are socially and individually harmful. We wash our hands of responsibility, and in consequence both the child and the nation suffer. 6

Douglas concluded that since apprenticeship had been destroyed by the division of labor, the profit motivation, and the separation of worker from employer of modern industry a new program had to be devised to protect and develop the youth of the day. Among other remedies he advocated:

1. Sixteen years of compulsory education. 7

2. Compulsory continuation schools for children between the ages of 16 and 18 years. 8

3. A national system of vocational guidance under a new Federal Department of Education. 9

4. The creation of training and industrial relations departments in industry. 11

5. Legislation to prohibit child labor in certain "Blind-Alley" trades. 12

7 Ibid., p. 331.
8 Ibid., p. 334.
9 Ibid., p. 333.
10 Ibid., p. 339.
11 Ibid., p. 335.
12 Ibid., p. 334.
In the past two decades social legislation has been passed both by the federal and state governments to protect the youth of the United States. The legislatures have enacted compulsory school laws, and child-labor provisions and prohibitions to prevent industry from stagnating and crippling children either physically or mentally. Time has advanced most of Douglas' proposals into the laws of the land. His dissertation presented ideas for reforming the inadequacies of the vocational guidance and industrial education system of his time which proved to be an accurate harbinger for the present training methods. The work presented a multiple of secondary statistical records to enhance his position, but was lacking somewhat in intensive original research on the aspects of vocational guidance which he proposed. However, Douglas made an important contribution in a field which was badly in need of reformation; he aided in the eradication of the social diseases inflicting the minor in the modern industrial system.

B. Intense Study of Wages: 1925-1934

After arriving at the University of Chicago in 1920, Douglas became entrenched in the academic life of that place of learning at once. His intense and tireless industry and his exacting scientific approach to the problems of economics were recognized early at the University, and in
1923 Douglas was advanced to assistant professor. Two years later he became a full professor. His teaching personality seemed to develop as the years passed by: in the early stages he was always insecure, sober and "sad-eyed" with no patent sense of humor; later he became a spirited, secure and friendly pedagogue "with a sort of sanitary humor."\textsuperscript{13}

In his research work in economics Douglas became intensely interested in the subject of wages and decided to study the family allowance system of wage payments. In 1925 he published his studies on that subject in \textit{Wages and the Family},\textsuperscript{14} and this work initiated a decade of indefatigable study by Douglas upon the subject of wages.

\textit{Wages and the Family} instantly became a much discussed book, and it forwarded Douglas as the leading American proponent of the Family Wage system. In the work he traced the development of the Family Wage system in Europe, destroyed the "standard" family of five as the mean of the living-wage principle, and advocated "the fixation of a minimum wage sufficient to support single men with added allowances for dependent wives, children, and other adults."\textsuperscript{15}

Douglas followed the above work with his manuscript

\textsuperscript{13} Smith, \textit{loc. cit.}, p. 28.


\textsuperscript{15} \textit{Ibid.}, p. 3.
on the theory of wages which was awarded the Hart, Schaffner, and Marx Prize of five thousand dollars in 1926 as previously reported in Chapter II (E). In the same year he became interested in the movement of real wages and published a paper on that subject covering the years 1895-1924. This study attempted to set up a new index of the cost of living, and then compare the relative movement of wages and earnings against the cost of living.

Douglas continued his research on real wages and in 1930 published *Real Wages in the United States: 1890-1926.* Here through much laborious effort he had constructed a statistical index which allowed him to shed light upon the changes in the real income of the workers. Thus Douglas was able to describe more accurately than any other economist the material progress of the American wage-earning and salaried classes. The book has been described:

In magnitude, his work is comparable to the labors of Hercules, while in social value, it far transcends the fabulous stunts performed by that Greek hero....His book must be recognized as the most profoundly scientific and thorough-going study in the field of wages and incomes of workers which has thus far appeared.

In the same year Douglas continued his above studies by


adding the years 1926-1928 to his work on real wages. 19

This work described the movement of real earnings of more
than 15,000,000 wage-earners in the United States for the
designated years and pointed up the slight decrease in real
earnings between 1926 and 1928.

Douglas culminated his work on wages with his most
serious book, The Theory of Wages, which was published in
1934. The background for this great effort had been derived
too from the Hart, Schaffner, and Marx Prize manuscript of
1926 which had been returned to him for further development.
Douglas had expended tremendous effort in this work which
had over a million separate calculations and testings. The
book was a prodigious attempt to present a theory of wages
by means of inductive, quasi-mathematical, and statistical
methods. Douglas described the work as "an attempt at an
inductive study of both the productivity and supply curves
of labor and capital, and from these, certain tentative
results have been obtained which the author at least be-
lieves to be important." 20 The book made a considerable
imprint upon economic thinking in the world and tended to
enhance Douglas' reputation as one of the foremost economists
of the day. The well conceived work was a step forward

19 Douglas, Paul H. and Jennison, Florence Tye, The Move-
ment of Money and Real Earnings in the United States,
1926-28 (Chicago: The University of Chicago Press,
1930).

20 Ibid., p. viii.
in the progress of economics towards its place as a more exacting social science.

C. Attacking the Economic Problems of the Thirties

The collapse of business in 1929 brought about great misery for the workers in the United States through unemployment, drastic wage cuts, and other factors lowering their earning power. Human suffering was widespread throughout the nation.

In 1930 Douglas accepted the appointment to organize and direct a new project at Swarthmore College, the Institute of Unemployment. This difficult assignment gave him the opportunity to attack the problem of unemployment frontally and attempt to ascertain remedies for the economic illness in the nation. During his year's residence at Swarthmore College he did a huge amount of research on the subject and succeeded in compiling and analyzing the experiments and experiences of most of the work done throughout the world to stabilize employment. President Frank Aydelotte of Swarthmore College reported that Douglas accomplished the most difficult task with "success which far out-ran the expectations of all those connected with the study." 21

Besides his important work at Swarthmore in 1930, Douglas was summoned by several state governments to assist them in ameliorating the unemployment plague. At the request of the then Governor of New York, Franklin Delano Roosevelt, he served as technical advisor to the New York Commission on Reducing Unemployment and drafted the report of the Commission. He also assisted Miss Frances Perkins, Industrial Commissioner of New York State, in preparing for the Governors Conference on Unemployment called by Roosevelt. Moreover, he acted as Secretary to the Pennsylvania Commission on Unemployment at Governor Pinchot's request. He submitted the report for that body. He was further called upon to draft potential unemployment insurance bills for the states of Illinois, Ohio and Michigan for alleviating the hardships and suffering in those areas. 22 Thus in the first year of the Great Depression Douglas was called away from his pedagogy to aid in searching for some relief to the woes inflicting a great part of his country. He met the issue of unemployment squarely; and after sifting through all previous empirical approaches to the subject, he offered forthright plans to ameliorate the disease.

Douglas was forced into closer contact with public life with each passing year as he was appointed to membership of numerous bureaucratic boards. In 1931 his home

22 Douglas and Director, *op. cit.*, p. x.
state made him a member of the Illinois Housing Commission and he served on this body until 1933. With this Commission he advocated a lowering of the gas and electric rates and was instrumental in formulating the Illinois Utilities Act of 1933. That same year President Franklin D. Roosevelt appointed him to the Consumer's Advisory Board of the National Recovery Administration, and Douglas served vigorously in that job for three years. He served Illinois once again by drafting both the Old Age Pension Act of 1935 and the Unemployment Insurance Act of 1937. 23 His scholarship in the field of unemployment protection was recognized in Washington in 1937 when Congress requested that he become a member of the Advisory Commission to the United States Senate and the Social Security Board on the subject of the federal social security system. 24

The decade of the Thirties had subjected American capitalism to its sternest test since it had created much disquiet among the millions of poverty-stricken workers throughout the country. Douglas could not remain an armchair theoretician during this period of economic collapse, but rather he struck out against it both in his writings and in his public activities. He coupled his labored, penetrating research with his boundless vigor and set out

23 Current Biography, p. 167.
as a Don Quixote to destroy the windmills that were pumping distress into the economic way-of-life.

D. The Turbulent Nineteen-Forties

The decade commencing with the year 1940 was a most turbulent and hectic one for Paul H. Douglas. War activities and political life pushed his economic concentrations in the background to a degree; yet during this time span he gained an American economist's greatest reward.

While teaching at the University of Chicago in 1942, Douglas decided to make a bid for the Democratic Party's nomination as United States Senator. He made a vigorous campaign but was beaten by the powerful Kelly-Nash machine, the bosses of Chicago's politics.25 Immediately after this political defeat, the Professor enlisted in the Marine Corps and commenced upon his military career. His heroism and achievements for the flag of his country were recorded in Chapter II.

In 1946 after recovering from his battle wounds, Douglas served as a Presidential advisor for a short time in Washington and then returned to the University of Chicago and regained his status as Professor of Industrial Relations.

On January 25, 1947, he received the highest honor

awarded to an economist in the United States when he was elected President of the American Economic Association, an organization dedicated to "the encouragement of economic research, the issue of publications on economic subjects, and the encouragement of perfect freedom of economic discussion." As President of this organization Douglas joined hands with former Presidents as John B. Clark (1894-95), Frank W. Taussig (1904-05), John R. Commons (1917), Wesley C. Mitchell (1924), John M. Clark (1935) and others, great names in the world of economics.

Douglas left the teaching profession in 1948 when, after a grass-roots campaign throughout the State of Illinois, he was elected to the United States Senate. Since his arrival in Washington, the "freshman Senator" has become one of the most outstanding and controversial members of that august body, and his fame has spread throughout the land. The hybrid character of an intellectual and politicalian, a Quaker and soldier, a reformer and compromiser, has cast Douglas as a rare being on the national scene.

Chapter IV
THE UNEMPLOYMENT QUESTION

Thus far in the world of medical history physicians have been unable to cure a malignant cancer, and the word cancer has become a horrendous one for all mankind. Germanely unemployment has periodically spread misery, want, and frustration about for the workingman and has succeeded in becoming the most pressing domestic problem of our time.

Looking backward a score of years to my grammar school days in New York City there have been forged upon my memory many scenes of suffering and degradation that I witnessed there during the Great Depression. Edging out on the banks of the Hudson River along fashionable Riverside Drive there were thousands of ramshackle paper and stick huts in which the homeless resided in squalor. Queues could be seen every few blocks shivering in the cold before a Soup Kitchen. Children came to school in tattered shirts and pants and sole-flapping shoes. New York and the rest of the great United States was inflicted by a situation that seemed to tear the heart out of millions of frustrated, forlorn and idle Americans for a decade.

Sir William H. Beveridge has written:

Unemployment is often called a disease of society. I am inclined to think that one is nearer the truth if one speaks of it as a
symptom. Unemployment is like a headache or a high temperature—unpleasant and exhausting but not carrying in itself an explanation of its cause. A high temperature may be got by catching malaria or by breaking one's leg or by eating too much; it may mean that one has something wrong with one's appendix or lungs or teeth, that one is in the thick of a bad cold or is sickening for cholera. Until one finds out which of these and many other possible causes is at work, one will not have gone far in finding a cure simply by knowing how many degrees of fever one has. The clinical thermometer is an indispensable but limited instrument.\(^1\)

Douglas contributed to the study of the unemployment problem in his writings as he attempted to measure more accurately the extent of the malady, to consolidate past works in the field, to spell out the various causes and effects, and to suggest measures which would aid in the prevention or tempering of the great social problem. He was helpful in organizing the very complex subject in a more uniform pattern so that more definite results could be achieved in counteracting the depression phenomenon. It was typical of the character of the man that he should grapple vigorously with the most pressing problem of his times: in the early Thirties he attacked the business decay and the unemployment question; to-day in the Senate arena he has come to grips with the communistic peril and Soviet Russian imperialism.

A. Approach to the Unemployment Question

As both an economist and a reformer Douglas was determined to address his attention to the severe economic crises that were rocking the United States in 1930. His appointment as Director of the Swarthmore Unemployment Study was the opportunity he needed to direct all his energy toward analyzing the chaotic conditions that engulfed the nation. Thus Douglas was able to produce a most searching treatise, *The Problem of Unemployment*, that has become one of the most important works in the field of unemployment analysis and has contributed much to the contemporary method of handling the problem.

Initially Douglas attempted to present a picture of the extent and cost of unemployment in the United States. He pointed up the deficiencies in the past methods of measurement of unemployment which were based on rough estimates since the fundamental statistics necessary to compile accurate figures were not available. He worked with the Census of Unemployment, statistics derived from unemployment insurance in foreign countries, public employment office data, trade-union statistics, and a method of subtracting the estimated numbers employed from the probable labor supply to compile an index by which to measure the yearly movement of the unemployment figures. It was unfortunate that raw

1a Douglas and Director.

materials for deriving his statistics were not available on a more accurate level as those available in the present day offered in the Monthly Report on the Labor Force since it led to many inaccuracies in his computations. Although aware of the limitations of his unemployment index, Douglas asserted that by comparing it with whatever Census statistics were available it showed a strong degree of accuracy and was "the closest approximation to the truth which it is at present possible to frame." Through the statistics he generalized that: (1) in the years 1897-1926 the unemployment average in manufacturing, transportation, mining and construction was 10%; (2) 6% of (1) was a minimum of unemployment caused by seasonal, chronic, and sickness reasons; (3) in the industries analyzed the volume of unemployment neither tended to increase or diminish; (4) a sharp distinction must be made between major and minor business cycles. Although Douglas made an honest attempt to determine the proper yardstick by which to measure the problem through strenuous toil with the sparse raw data available, he was unable to present an exact definition of the word, unemployment. He parried the definition about but was unable to

4 Douglas and Director, op. cit., p. 32.
5 Ibid., pp. 32-33.
offer a definition that could include all the complexities of the problem, such as: the status of idle aged people, of youths or married women who have never been a part of the labor force but begin to look for jobs, of workers unwilling to work at a lowered wage, of part-time workers, of striking workers.

In his approach to the American unemployment question Douglas also analyzed the picture in several foreign countries in an effort to compare the unemployment fluctuations between the foreign group and the United States. In his research he discovered that foreign statistics were inadequate, as in the United States, to present an accurate comparison. Through the use of trade union reports alone, except for the decidedly more accurate unemployment insurance statistics in Great Britain since 1912, he formed percentages of unemployment for Germany, Great Britain, Belgium, Denmark, Sweden, Canada, and Australia from 1904-1930. He explained the fact that Great Britain's average volume of unemployment was only one half that of the United States during the pre-war years and only slightly more during its worst period by: (1) the much greater irregularity of consumer demand in the United States caused by far greater weather differences in this country than in Great Britain; (2) the greater stress upon style and fashion in the United States causing greater

6 Douglas and Director, op. cit., pp. 34-47.
irregularity of employment; (3) larger population shifts in the United States causing temporary unemployment conditions; (4) the much larger growth of industrial progress in the United States: during 1907-1924 Great Britain's increase of production was 23% compared with the United States' 80% and increased output per worker was 4% against 45%. Douglas reasoned that France's comparatively low volume of unemployment in comparison to the United States was because of: (1) the stimulating effect to business of the rising price level in France from 1908 to 1927; (2) the post-war rebuilding program financed by German reparations; (3) the nationally-planned immigration policy which only permitted entrance to immigrants with job offers. In his analysis of Russia's extraordinary falling volume of unemployment during the first year of the Great Depression, 1929-1930, while other nations' volume was rising Douglas justified this phenomenon as follows: (1) an increasing rate of industrial production through the Five-Year Plan; (2) the advantage of a planned economy over a laissez-faire one in the utilization of productive capacity to meet slackening

7 Douglas and Director, op. cit., pp. 48-53.


9 Douglas and Director, op. cit., pp. 57-60.
demand; (3) the stabilization of the Russian price level.  

A criticism of Douglas' above approach to Europe's unemployment problem would suggest that his adjudgement of the situation was a cursory one and not too deep an analysis of the problem. He worked almost completely with somewhat biased trade union reports to gain his index of unemployment and thus was open to a possible wide margin of error. In his analysis of Great Britain, France, and Russia he tended to present conclusions without a full substantiation of the merit of these statements.

In attacking the question of unemployment Douglas was realistic in attempting to derive a standard by which he could determine the true extent of the economic malady. Although the accuracy of his statistical estimates was to be doubted, he established a more complete basis than had been previously promulgated by which to study both the causes and potential remedies to the problem. As will be seen in later sections however, his major contribution to the subject was not in his statistical introduction to the question of unemployment but in his proposals for lightening the burden of employment maladjustments.

B. Seasonal Unemployment

Of the three major causes of unemployment, seasonal, technological and cyclical unemployment, Douglas considered

10 Douglas and Director, op. cit., pp. 60-63.
seasonal unemployment as the least important factor in the causation of joblessness. Like Beveridge he thought of this type of unemployment as:

Seasonal fluctuation implies a falling off, in slack months, of the demand for labour. It is a cause of lack of employment entirely independent of the wishes and character of the individual workman, or, in general, of the individual employer. It does not, however, necessarily or indeed commonly involve acute distress. 11

This type of unemployment, a product of the seasons of the year, caused much displacement of personnel in many industries annually. Douglas estimated that seasonal fluctuations in the manufacturing, construction, and trade industries was at a yearly average of 6%. However, this estimate would be lessened if the more stable public utility, finance and domestic service groups were added to the above industries. 12

Douglas paid little attention to the causation of seasonal fluctuations and merely mentioned weather and styling as being the factors involved. He immediately entangled himself in the measurement of the variations without grappling with the core of the issue, the causes. Besides climatic conditions and fashion, another important cause has been social habits which have become ingrained in

12 Douglas and Director, op. cit., p. 84.
13 Ibid.
the life of the people.\textsuperscript{14} Social habits such as a customary
time to move from one residence to another as in the early
fall, the Christmas gift-giving period, the customary dates
for woolen sales have influenced the labor turnover annually.

Douglas' estimated figure of 6\% of the workers idle
through seasonal variations should be qualified by factors
which have tended to minimize the extent of that figure. A
6\% annual seasonal unemployment in our labor force to-day of
over 60,000,000 would mean unemployment for more than
3,600,000 workers. Many workers were not discharged but had
the number of days worked during the year reduced. Also
workers discharged from an industry in a slow period may
find employment in a different industry which may be in its
active season of production.\textsuperscript{15} Thus many variable condi-
tions should be mentioned to present as accurate a presenta-
tion of seasonal unemployment as possible in that nebulous
field. The worker who has not been discharged, but just
temporarily laid off, will not bear the mental distress and
psychological despair of the totally unemployed one. The
regularity of seasonal fluctuations in the various indus-
tries also may provide another unusual factor to this un-
employment question since it may be more easily overcome
than other unemployment causations by prior planning for

\textsuperscript{14} Beveridge, \textit{op. cit.}, pp. 33-34.
\textsuperscript{15} Ibid., pp. 34-35.
the known coming dislocation. Thus season unemployment is nowhere near as serious as cyclical since it is firmly enclosed by the boundaries of one year whereas cyclical variations are indefinite in length and in proportion.

To combat seasonal fluctuations Douglas pointed out that it was necessary for industry to attempt to discover means for keeping production at a stable uniform level throughout the year. The Sherwin-Williams Company had used advertising to change consumer buying habits in paints to a more steady basis; the American Radiator Company had offered price concessions to its dealers for off-season buying; the Packard Motor Car Company had used forecasting and advanced planning to set up a sales figure and followed it with a steady monthly production to meet the estimate; the Dennison Manufacturing Company had diversified their output from the original manufacture of jewelry boxes for Christmas sales to a multiple number of paper products utilized throughout the year; the Delaware Hudson Railway had maintained a constant number of workers on a flexible hourly scale. He emphasized, however, that in the main such stabilizing measures could only be attempted by the major corporations since off-season advertising, price discounts, budgetary planning, warehousing and interest charges for carrying goods for longer periods of time were all very costly.

16 Douglas and Director, op. cit., pp. 85-108.
considerations. However such regularization of sales and production would render profitable savings if successful by eliminating the heavy costs of training new employees, lowering fixed overhead costs, paying workers on a lower wage scale, and by insuring increased production per worker.\textsuperscript{17}

In this way Douglas contributed greatly to the study of this seasonal unemployment question by compiling and presenting the empirical approaches of hundreds of corporations in their attempt to stabilize employment and production. His research and presentation illuminated the path for a further study for offsetting the seasonal fluctuations nurtured by weather or custom. The recording of the practical methods used by industry to eliminate yearly fluctuations brought the problem out of the realm of theory in which it had been previously hidden into the daily economic battleground.

Both Douglas and Beveridge hinted at the remedy of the guaranteed annual wage to stabilize employment, but neither spelled out this excellent solution. Beveridge pointed up this point as follows:

\begin{quote}
Ultimately, therefore, seasonal fluctuation becomes a question not of unemployment but of wages. From an economic point of view no industry is self-supporting unless it pays wages sufficient to keep men, not only while they are at work, but also while they must stand idle and in reserve. Where in any occupation seasonal
\end{quote}

\textsuperscript{17} Douglas and Director, \textit{op. cit.}, pp. 109-113.
fluctuation year after year brings round acute distress, that occupation must be judged as one in which wages are too low or ill-spent, because they do not average out to a sufficiency for the slack months as well as for the busy ones. It is from this point of view that the problem must be regarded. It is upon this basis that its treatment must be attempted.\textsuperscript{18}

C. Technological Unemployment

The displacement of men by machines or by new labor-saving techniques was an important problem in Douglas' thinking on unemployment. The Industrial Revolution and the progressive innovations of new productive labor-saving processes through the past two centuries had constantly brought the fear of permanent unemployment to the minds of the working masses. The fear of labor-saving machinery reached its peak in the form of technocracy in the opening stages of the decade of 1930 when the vision of bolt-and-nut monsters performing the workload of men to bring employment "as close to zero as possible" was projected before the nation.\textsuperscript{19} Would mechanical farm machinery such as cotton pickers, bottling mechanisms, the "electric eye," linotype equipment and other scientific man-eliminating devices ultimately destroy the need for manpower and usher in an era of fixed joblessness?

\textsuperscript{18} Beveridge, \textit{op. cit.}, p. 37.

Douglas followed the traditional theory in analyzing this problem and contended that "permanent technological unemployment is an impossibility." In three different works on the above thesis Douglas set forth the following analysis:

(1) In the situation where the elasticity of demand may be equal to unity technological improvements will lower production costs which will in turn be reflected in a price reduction. Consumer demand will rise in the same proportion as the price reduction and thereby force increased production. The added production will necessitate the maintenance of labor, and therefore, will not cause technological unemployment.

(2) If labor-saving machinery enter an industry in which a product has a highly elastic demand, a lower cost of production will bring about a price reduction; but the demand will rise at a greater proportion than that by which the price was lowered. The innovation will require added workers, rather than a displacement, in that industry to meet the increased demand.

(3) Where the demand for a product may be inelastic, the


21 Ibid., pp. 42-46.
Douglas and Director, op. cit., pp. 125-142.
new machinery will lower the cost of production and thereafter the price of the goods. In this consideration although demand will not increase, the lowered price will permit the consumer to procure the same amount of the goods with a smaller quantity of money, thus allowing consumer saving. Thus while employment will drop in this industry, the saving will stimulate consumer demand for other goods and increase employment in other fields as production of other goods rises. Thus temporarily unemployed workers will be absorbed in industries with expanded production.

(4) Unlike the above arguments mirrored in a system of free competitive enterprise, technological improvements may cause a different relationship in a monopolistic industry. Here the entrepreneur may maintain the price of the product even under a condition of lowered productive costs to obtain a higher yield of profits. Then the added profits would be reinvested for new capital goods which will increase the demand for workers in the heavy goods industries to balance the number of men forced out of the above industry.

Douglas' theory of the impossibility of technological unemployment seems to be too loose an analysis of the important problem. The proposals would seem to be valid in a simple industrial society in which changes in demand and in employment could easily be traceable. However, in the modern industrial society enmeshed with great complexities of
businesses, markets and products the simplicity of the effects of the interchange of men and machinery may not be a truism. The laissez-faire society has been replaced by one of monopolistic-competition which may not allow production and demand to add employment when labor-saving techniques are innovated. In the strongly elastic demand situation, the effectiveness of new machinery may cause such a tremendous saving of labor per item of output that no matter how great the added demand for the goods may be only a small number of maintenance workers would be needed to run the equipment. The soft-drink bottling and dry cereal packing plants would be in point in this regard since a few men can operate the machinery twenty-four hours a day if necessary to meet increased demand. Consumer savings in the case of inelastic demand may not be spent in procuring other products; rather hoarding may occur. The hoarding of savings would not increase the demand for other goods and services and thus would not relocate a displacement of workers in the increased activity of other industries. A monopolistic situation in which higher profits were realized from labor-saving devices might or again might not result in the reinvestment of added profits in capital goods. If the profits gained from a reduction in the labor force were not reinvested to increase the production of other goods, then technological unemployment would definitely follow.

Although Douglas' theory of the impossibility of
technological unemployment had a multitude of nebulous aspects, there were many factors that tend to substantiate his analysis. If labor-saving machinery and devices were to have caused permanent displacement of workers, then the innovations in industry since the Industrial Revolution should have created a tremendous segment of permanently unemployed workers through the years. Douglas' own index of unemployment for 1890-1926 revealed that "the percentage of unemployment was approximately the same for the period 1920-1926 as it has been on the average during the three previous decades." The years 1920-1926 had seen great technological advances in the field of production. Unemployment was not a serious menace to the economy during the first three decades of the twentieth century; rather technological innovations seemed to bring forth an increase in employment. The inventions of new machinery created new demands for capital goods which added to employment in the heavy industry field. Moreover with many technological changes new products were born to increase the demand for labor. Slichter noted: "Indeed from the standpoint of maintaining employment, technological changes are likely to come too slowly rather than too rapidly in the immediate future."

22 Douglas and Director, op. cit., p. 123.
<table>
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<tr>
<th>Year</th>
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<tr>
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<td>1925</td>
<td>8.9</td>
</tr>
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<td>1926</td>
<td>7.5</td>
</tr>
</tbody>
</table>

Table I
Unemployment in Manufacturing, Transportation, Building Trades, and Mining, 1897-1926

24 Douglas and Director, *op. cit.*, p. 28.
Finally, both Hansen and Beveridge corroborated Douglas' premise by statistically showing that the total reward to the workers had increased sharply during the progress of industrial invention. Beveridge proved that in the period of 1878-1907 wages in Great Britain had been rising while prices were falling; therefore an increase in the real wages of workers while labor-saving devices were being introduced. Similarly Hansen estimated that in 1920 the real wages of the laborforce in the United States were three and one-half times greater than they were a century before.

Over a long time span in which the impact of technological changes have been earth-shaking and populations have been increasing, there has not been a cumulative increasing group of permanently unemployed workers. The substitution of wireless for the pony express, the automobile for the horse-drawn coach, electricity for manpower, giant earth movers for the pick and shovel, power machinery for handwork has increased the demand for labor rather than stimulated a reverse condition.

Douglas tempered the theory of the impossibility of permanent technological unemployment somewhat by admitting that industrial changes caused a serious transitional


Table II

Rates of Money Wages and Prices, 1878-1907
(1900 = 100) 26a

<table>
<thead>
<tr>
<th>Mean of ten years</th>
<th>Wages</th>
<th>Prices (wholesale)</th>
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<tr>
<td>1878-1887</td>
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<tr>
<td>1898-1907</td>
<td>99.80</td>
<td>87.14</td>
</tr>
</tbody>
</table>

unemployment problem. Laborers would not be immediately re-absorbed into expanding industries from contracting ones; increased consumer demand caused by price reduction of a product would not be an instantaneous operation, but rather a delayed one; a change of residence or occupation would be imperative after sweeping industrial changes. "From all of these causes therefore technological and business changes create a considerable amount of 'temporary' unemployment which in the short run creates havoc." 27

Douglas was fully aware that the transitional unemployment concomitant to technological progress was one of the most serious defects of the laissez-faire economic society. To resolve and temper both the amount of work lost and the time lapse between old and new employment he suggested: the forecasting of the amount of labor likely to be displaced by new techniques, the proper scheduling of new methods to minimize layoffs, the retraining of workers through an expanded vocational rehabilitation program, the establishment of public employment offices to relocate the idle laborers in other industries or areas, the granting of adequate dismissal wages by employers, and the erection of a system of unemployment insurance. 28 In the words of Douglas: "... while technological unemployment is a transitional problem

27 Douglas and Director, op. cit., p. 147.

28 Ibid., pp. 151-158.
rather than the permanent fate of the displaced workers, we should set ourselves to cope with it. Society need not fear the ogre of ever-cumulating unemployment, but it should deal with it effectively. It can do so if it only will.29

Douglas was indeed a harbinger of things to come since most of his program for alleviating the stresses of transitional technological unemployment has been adopted. Unemployment insurance has become an integral part of the American economy along with public employment offices and vocational training programs. Labor unions are now demanding dismissal wages for their members in new contract negotiations. Thus the past two decades have changed radical ideas into prophetic ones upon this subject.

D. Business Cycles and Cyclical Unemployment

Although Douglas like most labor economists had explanations of the causes and the pattern of the business cycle, his major contribution in this field was towards combatting the unemployment effects of the cycle rather than in his cyclical theory. The next section (E) will explain his proposals for alleviating cyclical unemployment through "pump-priming," government employment offices, and unemployment insurance. Here a brief explanation of Douglas' view of the business cycle itself and the cause of the depression

of 1929 will be presented.

Douglas thought of a depression in the light of a forest fire:

Once a fire of any magnitude starts it heats the immediate atmosphere about it. The hot air immediately rises and the cold air rushes in to fill the void. But all this necessarily creates a wind which fans the flames; this in turn generates more hot air while the hot air will create more wind and the wind more fire. And so the forest fire moves cumulatively onward. It is just so with business depressions....30

To Douglas an analysis of the process of forest fire-like depression was most important since he believed that depression was governed by its own laws which caused it to gather momentum and become cumulatively more disastrous.

Initially the entrepreneurs' belief that profits were going to shrink would bring about a curtailment of production of consumer goods which in turn would necessitate a cutting down of the labor force bringing a smaller amount of purchasing power available for the consumer. The next step toward business collapse was a decrease in the production of capital goods at a faster declining rate than that of consumers' goods; this development added workers to the ranks of the unemployed and further lowered purchasing power. Then the banks would both recall loans and reduce the amount of credit for business which would again lower the volume of production.

Prices would fall severely because of the accumulation of large inventories and of overproduction in line with the falling level of purchasing power. Both the velocity of money and credit would slacken since saving and less spending would ensue, and purchasing power would be dammed up in the banks. Along with these forces leading to a downward spiral there would be a cutting of wages which would once again decrease the amount of purchasing power in the hands of the consumers. Through the interrelationship of the many factors in the business system one played upon the other and caused a cumulative degeneration of the economic structure.

In the revival phase of the business cycle Douglas professed to model his description upon the analysis of Professor Mitchell. After the depression phase had been on the scene for some time with its concomitants of unemployment, idle capital equipment and funds, entrepreneurs would once again be optimistic toward profit expectancy because of low interest rates, idle cash savings, lowered overhead and selling costs, eradication of marginal concerns and depleted stocks of goods and raw materials. Thus the cumulative impetus to production would be afforded by retail and wholesale concerns placing orders for consumer goods.


thus stimulating manufacturing. As orders would expand, the capital goods industry would return to production; bank credit would increase; prices would tend to rise; workers would return to work; and consumer purchasing power would increase. The process would turn over and over again as business sentiment would turn from pessimism to an optimistic nature as the profit potential would return; higher wages, higher prices, an increasing labor force, bigger inventories, new developments in capital equipment, and greater purchasing power. All the cumulative factors together would lead the depression phase of the cycle into the revival period and then into an era of prosperity.

The important question of how the depression phase of the cycle leaped across its downward spiral barrier to connect with the revival phase was enigmatic to Douglas. He could not agree with Professor Mitchell's theory that the economic forces themselves provided the "missing link" to stimulate the rebirth of revival through an increased consumer demand, increased investment of idle capital, and lowered costs and overhead in industry to provide a profit outlook. Douglas refuted the Mitchell theory by contending that: (1) money would not be forthcoming to increase consumer purchasing power since depression would eradicate

savings of the masses; (2) the supply of raw materials would not be depleted during the depression to permit increased production; (3) individual capital would not be forthcoming for investment since individual savings would have decreased; (4) monopolies and unions could prevent prices and wages from adjusting so that purchasing power would not be stimulated.  

Moreover, economic history had pointed out that past depressions were cured not by the inherent quality within economic forces to breed revival, but by accidental external happenings. Wars, the gold rush, railroad expansion, the automobile, the development of world markets provided economic activity which stirred a linkage between depression and revival. The laissez-faire economy itself could not cushion its downward depression spiral since it had no means of infusing the life blood of purchasing power into the system. Douglas, therefore, castigated the negative approach to the problem and advocated a firm constructive policy of planning to alleviate unemployment and to increase purchasing power.

Referring specifically to the economic collapse of 1929 with the millions of workers unemployed Douglas believed that the originating causes of the business decay were the

35 Douglas, **Controlling Depressions**, pp. 85-95.
36 Ibid., pp. 79-84.
following: (1) A rigidity of prices and wages invoked by monopolistic control which tended finally to reduce purchasing power, restrict output, and increase unemployment. Between 1922 and 1929 output per man-hour increased 30%, hourly earnings increased 8%, labor costs were reduced on an average of 14%, prices fell only 2%, profits increased 84%, production increased only 37%. Here the stickiness of prices caused an overinvestment of profits and bank credit in capital goods production, and an overspeculation in producers' goods, the stock market and real estate. Thus monopolistic and quasi-monopolistic combines' maintenance of prices tended to break the back of the supply of purchasing power and cause widespread unemployment. (2) Leading to the same conclusion of reduced purchasing power was the other cause of the Great Depression, the lagging of real wages and real income of workers and farmers behind the overexpanded output of industry which produced oversized profits. The outcome as pictured above was unemployment and a business bust when prices had to be reduced sharply to move inventories, and hence eliminated profits.37 Allied with the above major causes of cyclical unemployment in the Thirties were the reduced purchasing power of the farmer through the great fall in the prices of agricultural commodities and some raw materials, the fall of the silver

37 Douglas, Controlling Depressions, pp. 53-76.
price, and the increase in post-war tariffs. 38

To classify Douglas’ business cycle in a single niche it would seem that he would be placed with the "under consumptionists" since he stressed the lack of buying power of the consumer as the basis for depression. The inability of the consumer in periodic occurrences to purchase the amount of production offered by industry at profitable prices caused a glut on the market; then goods would have to be sold at lowered rates stimulating a cumulative downhill business recession. Thus, "purchasing power" was the key to the business cycle.

Yet combined with underconsumption, Douglas utilized Mitchell's "profit-motive" theory in his analysis also. "In our analysis of business cycles, then, we must recognize that profit making is the central process among the congeries that constitute the activities of a business economy." 39 He emphasized the role of profit-making in the entrepreneur's mind's eye as the one which caused an increased or decreased production which in turn would lead to either an expansion of business activity or unemployment and depression.

It must be pointed up that a conflict exists between the two theories since increased profits could lessen the amount of purchasing power in the consumers' pockets. If

business is stimulated through the expectancy of greater profits by the monopolistic practices of holding the price-line amidst increased output and lowered costs and by limiting wages, then purchasing power would disintegrate at a time of increased production. Contra if prices are lowered and wages are lifted to stimulate purchasing power, the margin of profits would be reduced and might hamper the growth of the economy. Douglas hinted at a reconciliation of the two ideas by contending that a slow decrease of prices and a gradual increase of wages would not hamper the profit margin too greatly. The reconciliation of the inconsistencies of the theories were not spelled out however.

In his analysis of the periodic fluctuations of business activity Douglas did not project a new approach to the cyclical problem which might more clearly illuminate it. Rather he incorporated the ideas of other economists to present his view of the rise and fall of the industrial world. His underconsumption theory did not emphasize two possible ideas, oversaving or underinvestment, which might be the cause of the insufficiency of the consumers' money income. His theory did not explain why he expected profits to automatically return for reinvestment to cause overproduction rather than being dammed into savings to bring about underinvestment. One year after his book, Controlling

40 Douglas, Controlling Depressions, p. 78.
Depressions, was published, a revolution in business cycle thinking occurred with the arrival of the underconsumption, underinvestment theory of John Maynard Keynes upon the scene; Douglas' work had not forged a new frontier, whereas Keynes' had extended the understanding of the business cycle.

E. Minimizing the Effect of Unemployment and Depressions

1. Employment Exchanges

In 1931 when The Problem of Unemployment was published, the ideas of planned public works, unemployment insurance and public employment exchanges suggested therein for curing the unemployment and depression cancers were considered radical in nature in the United States. Then laissez-faire was the ruling doctrine of the American economy in which the demand for and the supply of goods and services determined prices, and the prices regulated the individual producers and purchasers. Social security was a European experiment and not a part of the American economic system. And too, private fee-charging employment agencies were the controlling means of getting jobs and workers together.

Two decades later after President Franklin Delano Roosevelt's social experimentations in the "New Deal,"

emergency public works programs, unemployment insurance, and the public employment service were accepted as rational methods of combating unemployment. Thus Douglas had proved himself a Cassandra in formulating ideas which were to become an integral part of the American system.

The problem of unemployment was cancerous for the economic system both in prosperity and depression periods. In the period from 1897 to 1926 in the fields of manufacturing, mining, construction, and transportation the estimated average of unemployment was 10.2%, the peak being 23.1% for the depression year of 1921, and the lowest point, 5.5% for the war year of 1918. In the depth of the Great Depression 1932 to 1933, the gross national production had fallen to $56 billion or one half of the 1929 level, and one in every four persons was counted among the unemployed.

To Douglas the initial step in minimizing unemployment was the creation of coordinated active public employment systems throughout the United States which would combat the delays and wastes of the distribution of labor and aid in readjusting changes in the demand for and supply of labor. He estimated that in 1930 there were approximately between 3000 and 4000 fee-charging employment agencies and but

42 Douglas, Real Wages, p. 460.
44 Douglas and Director, op. cit., p. 266.
180 public employment offices. The private agencies were "guilty of great abuses against the workers," and the public offices were totally inefficient and inadequate to meet the needs of the jobless. The history of public employment exchanges in Europe since the first national system in Great Britain in 1909 had been a successful one and should have set a precedent for the United States to follow.

Douglas was able to see his views become a reality when in 1933 Congress legislated the Wagner-Peyser Act which created a new United States Employment Service to develop a system of public employment offices to be administered by the states with the financial aid of the federal government. Between 1933 and 1937 these employment offices registered 26,912,000 applicants for work; a large part of the total being forced registrants for public works employment. The new federal system has been a great force in attempting to mitigate the evils of unemployment by registering the main labor pool of an area, lowering the number

45 Douglas and Director, *op. cit.*, p. 336.
of misfit hirings, providing labor mobility, and selecting labor for public works programs.  

2. Planned Public Works

In 1931 when Douglas advocated a system of planned public works to meet the emergency of depression unemployment, the prevailing view among classical and neoclassical economists was that public spending was unproductive while private spending was productive, and that public expenditures were made at the expense of private spending. Douglas, however, refuted the above view and wanted to utilize a government program of public works as a means of stabilizing the economy and attacking unemployment. Public works should not be undertaken in a period of prosperity since the government expenditures would strengthen the inflationary factors by increasing the demand for labor and capital; rather public construction should be performed in the depression phase of the cycle when private spending was limited so that the deflationary tendencies could be retarded. In other words, the "pump-priming" should move inversely to the business cycle in that government spending would become more rapid during the depression phase and slower during the prosperity.


phase. Thus the planned public works program would reduce unemployment by pumping more monetary purchasing power into circulation to increase the demand for consumers' goods, and thereby revitalize both the consumer and capital goods production. Moreover, the cost to the government of the public expenditures would be reduced since material, interest rates, and wages would be obtainable at a lower rate during a depression.

In The Problem of Unemployment in 1931 Douglas was harassed by the lack of centralization in the American system of government to control the public works program. "In the United States any very large degree of centralization is inconceivable. The most important spending agencies are the municipalities, and the federal government is least important, responsible for no more than ten per cent of the total." Moreover, although his theory of "pump-priming" was clearly formulated, there were many loose ends that had to be tied together to form a definite controlled public works policy. By 1935 in his work, Controlling Depressions, the views were more refined. President Roosevelt's "New Deal" program had created a more centralized federal government which eliminated one problem for Douglas in this work. He incorporated

52 Douglas and Director, op. cit., pp. 192-221.
Douglas, Controlling Depressions, pp. 123-142.
53 Douglas and Director, op. cit., p. 215.
Keynes' multiplier views into his own to show that the indirect effects of the added purchasing power through public works would be greater than the direct stimulation, i.e., each dollar expended through a public works program would create total purchasing power of approximately $2.80. Moreover, he crystallized his thinking on the form of public works projects by advocating a five billion dollar outlay for slum clearance and public housing; this program would not only tend to fill a great need in the nation, but it would also stimulate production and employment in the durable goods industries. He hoped that the public works program could be financed by a balancing of governmental expenditures and tax receipts over a long period of time as government outlays would increase during depressions and decrease during prosperity. If not, a managed national paper currency should be established since it could best be coordinated with the federal government's fiscal and public works program, and interest would not have to be repaid as in the issuance of Treasury bonds.

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56 Ibid., pp. 128-134.
57 Ibid., pp. 135-141.
amplified and furthered by the popularity of Keynesian economics the past fifteen years. Lord Keynes in *The General Theory of Employment, Interest, and Money* propounded the theory that government spending in a managed economy could alone combat unemployment and depression since a system of laissez-faire would continually create serious business crises through the disequilibrium of savings and investments. The Keynesian analysis adopted the idea of the continuous full employment of the labor force as the goal of the economy to reduce the evils of cyclical fluctuations; Douglas had not gone that far in his public works program since he considered the government spending as a method of minimizing a cyclical depression rather than as a means of eliminating the cycle. He had rebelled against the orthodox cycle theory approach of the competitive market automatically resetting itself from depression to widespread employment without governmental succor since he believed that capitalism could perish without a planned economy. Thus Douglas and Keynes were closely allied in theorizing of a managed economy with a public works program as the main weapon in pumping blood into the arteries of a faltering free enterprise system which was constantly beset with unemployment. However, Douglas had not been able to forge a program as lucid or as all-encompassing as the Keynesian analysis for prosperity through a high scale of national income and full employment.
The public works program could possibly stumble upon many loose planks in its practice. Professor Slichter along with many other economists believed that large outlays on governmental construction could intensify the depression by creating a "highly artificial" economy which would make business more conservative and by producing a deflationary effect through a fear of inflation caused by large-scale spending and the swift rise in the public debt. Contra Douglas believed that the injection of monetary purchasing power by public works would instill optimism into the entrepreneurs and set the production wheels rolling. Then too, somewhat shortsightedly in light of the American debt of approximately $300 billions, he felt that the public debt would not rise by public works but the surplus of the prosperity phase of the cycle would supply the funds for the downswing expenditures.

Thus two decades ago Douglas was a harbinger of the trend of a long-term deficiency of consumer demand in the economic system and foresaw the necessity of large public works programs by the government to stimulate spending. He opposed the "laissez-faire" system of private enterprise as being inherently unbalanced and hampered with rigid prices and wages, monopolies, and combinations; it could only lead

towards periodic widespread unemployment and potential revo-

lution. Although he did not spell out the patterns of full
employment and a managed economy as broadly as Keynes,59
Beveridge,60 and Hansen61 were able to do a few years later,
Douglas greatly contributed to the idea of unemployment
control through deficit spending.

3. Unemployment Insurance

To most Americans at mid-century unemployment insur-
ance and its other social security partners, old-age assist-
ance, children's aid, aid to the blind, etc., have become a
normal and natural concept of government. The people have
come to believe that it should be the duty of government to
provide an economic security program which would provide
assistance in case of unemployment, disability, or death.
Yet but twenty years ago unemployment insurance was not a
part of either the state or municipal or federal governments.
Although the initial union plan for unemployment insurance
was established in 1831, in 1932 every plan was a voluntary
one and in 1934 less than 100,000 union members were covered
by unemployment insurance reserves.62

59 Keynes, op. cit.
60 Beveridge, William H., Full Employment in a Free Society
61 Hansen, Alvin H., Fiscal Policy and Business Cycles
(New York: W. W. Norton and Co., 1941).
62 Committee on Economic Security, Social Security in America
p. 8.
Directly after the collapse of American business in 1929 Douglas was convinced that unemployment insurance was an imperative need of the economy. Fortunately he was provided the opportunity to blend his ideas on this subject together by being appointed Director of the Swarthmore Unemployment Study in 1930 and in his association as a member of both the New York and Pennsylvania Committees on unemployment that same year; in 1931 he furthered his research abroad on the European security systems as a recipient of a Guggenheim fellowship. Thus armed with ideas gained through strenuous research, he was well equipped to forward a pragmatic approach on social legislation.

Prior to the passage of social security legislation, the unemployed worker was faced with a perilous and disastrous outlook. He had depended on his job to supply him with wages by which payment he and his family might live; he had no control over that job whatsoever. The loss of the job per se was not the important consideration, rather the absence of wages would cut off his livelihood and bring about economic calamity. The American capitalistic economy inflicted the worker with the pains of Job's boils when forced into involuntary unemployment as his income vanished completely. To


ward off complete physical disintegration the unemployed worker had recourse only to his own personal savings, or private or public charity. Savings could be of little succor to the unemployed since in 1928, a prosperous year, earnings of fourteen million employed non-agricultural workers was but $1504 per year, or approximately $29 per week; little or nothing could be banked from that wage. In the Twenties, moreover, the practice of instalment buying tended to keep people in debt, bank failures wiped out the small savings of hundreds of thousands of people, and the stock market crash was catastrophic for many more. The second solution, charity, was not only a most humiliating and demoralizing method of aiding the unemployed, but it was also totally inadequate and uncertain. Charity in the United States was a modernized version of the out-dated Elizabethan poor-law dole since it was confined to the doling out of a meager supply of bread, soup and medicine to the destitute; it brought about social tragedy as it tended to wreck the independence, self-esteem and pride of the unemployed workers. The complete inadequacy of the charitable aid was pointed out when in 1932 between $400 and $500 millions were expended on relief to unemployed families while approxi-

65 Douglas and Jennison, *op. cit.*, p. 27.

mately $15 billions were lost in wages by the jobless. 67

In the United States there had been strong opposition to the concept of unemployment insurance as a protective measure against the worker's insolvency. There was a widespread misconception of the British system which had actually aided the unemployed immeasurably; it was considered a mere "hand-out" technique which fostered voluntary joblessness. 68

Then too, besides the negativeness of the employers and their lobbies, the trade unions had not taken an affirmative stand in favor of the legislation, President Samuel Gompers of the American Federation of Labor being violently against unemployment insurance. Finally there were grave doubts concerning the constitutionality of a national unemployment system. 69

Douglas resisted the forces allied against economic security and became one of the prime movers for incorporating unemployment insurance in our legislation. In four works in which he wrote upon the subject 70 he contended that unemployment insurance would bring in general more stable and just relief to the jobless than the inadequate and humiliating

67 Douglas, Standards of Unemployment Insurance, p. 16.
68 Armstrong, op. cit., p. 5.
69 Epstein, loc. cit., p. 134.
70 Douglas and Director, op. cit., pp. 484-490.
Douglas, Controlling Depressions, pp. 251-264.
method of charity, and it would tend to have a stabilizing influence upon the economy. The rationale behind his thinking was as follows: (1) The payment of compensation benefits would affirmatively increase the monetary purchasing power of the unemployed and would increase the demand for consumers' products which would subsequently stimulate the demand for producers' goods. Thus not only would new jobs be created in revivified industries, but also the gross national product would be raised. (2) The security in mind provided employed workers through adequate benefits in case of discharge would allay the dreaded fear of unemployment and both buoy up the amount of their purchases of consumers' goods and slacken their rush of personal hoarding when business pessimism loomed. Therefore, by increasing spending and creating a better balance between saving and spending, there would be less unemployment and a greater chance for business stability. (3) The insurance would tend to erect a pooled reserve fund for the workers to aid them through critical business conditions in a similar fashion to that in which the separate corporations have established reserves to protect the owners of industry. (4) The unemployment reserve funds could be intelligently managed by the government either to aid in the creation of credit during deflationary trends, or to check loans in an over-expanding producers' goods market during inflation. Thereby, the unemployment insurance pools could intertwine with business trends and
Douglas was against the Wisconsin method, although he admitted that it was a progressive step forward because he felt that individual employers or industries could not have sufficient strength to stabilize employment, separate industry funds would produce a wide inequality of monetary benefits, and employers' associations would be given additional power to combat labor organizations by having control over the separate funds. 74 Contra, Douglas advocated a centralized state pooled-insurance fund administered by both workers and employers into which both the employers and the employees would contribute a stipulated percentage of the wages. Some of the stipulations of his proposals were:

(1) Coverage should include all male workers in industries other than agriculture employed in businesses with three or more workmen and all clerical workers whose salary is less than $2000 annually; 75 (2) benefits should be graduated from 60 per cent to 30 per cent of the working earnings based on the wage scale of the workers; 76 (3) cost of the insurance would require an assessment of approximately 3.75 per cent


75 Douglas, Problem of Unemployment, p. 490.

76 Douglas, Standards of Unemployment Insurance, pp. 84-89.
of the total wages and salaries; contributions to the insurance fund should be divided so that workers would pay 1.75 per cent of wages and salaries and employers 2.50 per cent. Administration of the insurance fund would be planned so that the reserves would not only be liquid and secure, but also a dynamic force in increasing or decreasing credit to mitigate depressions; experience ratings should govern contributions of the employers to provide an incentive for stabilizing employment in a plant. Besides this program which would better distribute the risks of unemployment and provide a "front line trench" to combat depression, it would be necessary to have a positive system of relief to care for people both unqualified for unemployment compensation and jobless a longer period than the benefits would be forthcoming.

There was much support for Douglas' proposals during the early years of the 1930's when the movement for unemployment insurance was gaining strong impetus in the United States. Two pioneering spirits in the field of social

78 Ibid., p. 157.
79 Ibid., pp. 176-180.
80 Ibid., pp. 157-160.
security, Abraham Epstein and I. M. Rubinow, supported the pooled fund idea, and the Ohio Commission on Unemployment advocated a program which was analogous in most details to that of Douglas. After considerable Committee wrangling, the Congress finally enacted legislation on August 18, 1935 which would assist the states in working out unemployment insurance provisions for themselves.  

The passage of the Federal Social Security Act provided the stepping-stones upon which the several states could enact unemployment insurance legislation with monetary grants from the federal government. Many of Douglas' ideas upon the subject were a part of the bill although in general it was a compromise measure between the Wisconsin method and the state pooled-fund approach. Contributions were to be made by the employers alone, yet aside from the provisions of the La Follette Amendment which allowed a system of plant reserves, the Federal Unemployment Trust Fund was to be the agency to hold the contributions. The gist of the federal legislation on unemployment insurance was as follows: the Federal Government imposed an excise tax on the payrolls of employers with provisions that up to nine tenths of the tax to

be paid by the employer could be offset if it were paid into an approved State unemployment compensation system; one-tenth of the tax paid to the Federal Government would be utilized to make grants to the States to aid them in paying for the administrative expenses of the system. The moneys collected by the States for unemployment compensation would be deposited into the Federal Unemployment Trust Fund which would serve as a banking agent for the States and as an instrument for stabilizing credit conditions. With the approval of the Federal Government, the States would provide their own standards of benefits, incentive plans, waiting periods, etc.

Although Douglas was impressed with the potential good that the Federal Social Security Act could provide by granting some monetary purchasing-power contribution to the jobless, yet he believed that it should only be the foundation upon which greater security could be obtained. Additional funds should be secured to assist states with high unemployment rates to provide minimum unemployment benefits, emergency benefit funds should be created to provide compensation for prolonged joblessness, and the self-employed should be protected.85

itself prove secure. It is menaced to-day by business depressions and by war. If it is not able to prevent these twin scourges from assuming violent form, it will be inevitably changed and transformed. The real struggle for security may therefore be carried through upon a larger stage than that which has been sketched in this book. But in that larger struggle of mankind this smaller one will have its part. 86

Chapter V

WAGES

Were the methods of wage payments proper? How had the condition of the worker improved or deteriorated between 1890 and 1928? What determined the size of the wages that the various classes of society were to receive from production? These questions of wage payments, real wages, and wage determination had long been debated by labor economists throughout the world; the wage problems were complex and illusory.

In the discussion of wages that follows, it will be noted that Douglas attacked each one of the important wage issues and attempted to present a practical, although sometimes not entirely satisfactory solution to each problem. In his studies, he developed, first, a method of wage payment based upon the family size; second, an index of the material progress of the wages and salaries of American workers; and, finally, a law of production.

A. The Family Allowance System

During World War I and the post-war period poverty and economic distress plagued a huge number of families in every country in the world. Douglas had thought carefully
about the miseries inflicted upon millions of families and was led to the belief that some action should be taken to better the standards of the dependents of these families. Large families had been especially inflicted with degradation during that time because of great scarcity and a tremendous series of price fluctuations.

To combat the distress, he advocated a family allowance system under which there would be an adequate minimum wage to support single men plus additional allowances for dependent wives, children, and other adults.\(^1\) In other words, a system of family allowances would be established in which compensation would be made for dependents, distinct from wages, not because of any economic productiveness from the dependents or the provider, but just because these dependents existed.

Douglas contended that the system of family allowances would provide a much more equitable solution to the problem of poverty among workers' families than the "living wage" concept. The living wage doctrine had adopted the standard of the family of five as the number of persons dependent upon the gainfully employed. However, there was no statistical data to substantiate this doctrine, and it could be considered a fiction.\(^2\)

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could be descriptive of only a relatively small percentage of the total cases studied as seen in the following tables. These statistics plus other similar studies compiled throughout the world made it clear that there was no justification for the utilization of the standard family of husband, wife, and three children in the doctrine of the "living-wage." Therefore, if the "living-wage" principle was to hold any weight as a system of wage regulation, there could not be a basic minimum wage without taking into consideration family needs. Rather as Douglas stated: "Should not the real principle be that, as needs are not uniform, but variable, so the minimum wage should not be uniform, but should vary according to the needs of the worker and his family?"  

Besides the inconsistencies in the standard family of five as the group to be supported by the wage-earner, it would be impossible for industry to provide wages to every male worker to support that size family. By means of a statistical approach in which he approximated the total cost of wages for the standard family of five and compared same with the gross national product, Douglas determined that not only could the capitalistic economic system of the United States not sustain the cost of these wages, but similarly socialism and communism could not pay the sums required by the living-wage.  

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3 Douglas, Wages and the Family, p. 41.  
4 Ibid., pp. 11-16.
Table III

A Study of 974,966 Male Wage-earners in Australia and their Dependent Children. 5

<table>
<thead>
<tr>
<th>Number of Workmen</th>
<th>Number of Dependent Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>438,735</td>
<td>$^a$</td>
</tr>
<tr>
<td>90,617</td>
<td>$^b$</td>
</tr>
<tr>
<td>69,174</td>
<td>$^c$</td>
</tr>
<tr>
<td>78,288</td>
<td>1</td>
</tr>
<tr>
<td>77,752</td>
<td>2</td>
</tr>
<tr>
<td>220,400</td>
<td>3 or more</td>
</tr>
</tbody>
</table>

$^a$ Unmarried  
$^b$ Married with no dependent children  
$^c$ Married with no children

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5 Memorandum by Mr. Piddington, Report of the Royal Commission on the Basic Wage, Australia, November 23, 1920.
Table IV

Workmen in Seven English Cities in 1911 Classified According to the Number of Children Dependent upon Them. 6

<table>
<thead>
<tr>
<th>No. Dependent Children under 14 Years</th>
<th>No. Workmen out of 1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>531</td>
</tr>
<tr>
<td>1</td>
<td>162</td>
</tr>
<tr>
<td>2</td>
<td>125</td>
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<td>10</td>
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<td>7</td>
<td>4</td>
</tr>
<tr>
<td>8 or more</td>
<td>1</td>
</tr>
</tbody>
</table>

for the economy of a country to set as its standard wage for all workers a sum based upon an approximate 8 or 9 percent of the employees who alone had a wife and three children to support; the total monetary outlay in wages could not be supported.

Besides Douglas' rationale in favor of a family allowance system based on need, there were other supports of importance for the system. In France it was hoped that family allowances would not only check the steadily declining birth rate, but also stimulate an increase of population. In Australia the population approach was likewise important. In Great Britain since a method of increasing population would be considered in a negative light and openly criticized, the system was grounded on the theory of obtaining an equal wage rate for women as for men for equal workloads. "We should know what part of each income was wages and what part society's method of providing for its own reproduction—and the latter part would be paid to the wives and children on whose shoulders rests the real burden of that special task."  

In rebuttal to the French view that family allowances would stimulate the birth rate, it may be said that there has been no substantiation of that theory. In a statistical study Dr. Peret was able only to show that the number of children in each family remained constant after family allowances had been granted although he suggested that the birth rate would have dropped if not for the grants. Colonel Guillermin's statistical evidence in later years was also inconclusive in showing population rises through allowances. Thus although an increased population may possibly be derived through a system of family allowances, it has not been proven and should not be considered as a substantiating motive for the adoption of the system.

In relation to precedents for the family allowance system Douglas stated:

The family allowance system is not an isolated attempt to get away from the practice of paying equal sums to those with an unequal number of mouths to feed. It is but one of a number of similar methods that have been applied in the attempt to provide variable payment for family needs....Society is beginning to recognize that needs are not uniform but variable and it is attempting from many angles to make provision for that fact.12

10 Compte rendu, III Congrès National des Allocations Familiales, Bordeaux, 1921, pp. 86-88.
11 Ibid., IV-VII Congrès National.
He stressed the governmental war-period policies of providing separation allowances for the families of military personnel and food rationing, both based upon the number of dependents. These war-time regulations would not seem to be valid precedents for family allowances since during a war emergency the economic and social conditions are very unlike those existing during normal peace times. War measures were of transient nature; rigid government control supplanted a freely competitive market; freedom of action was not an essential phase of the controlled war economy, rather involuntary measures could be enacted. Thus, it seems a point of weakness to have based the proposed family allowances as a wage standard for the nation's economy upon precedents in force during a transient period of upheaval and strife.

The fundamental structure of Douglas' family allowance plan would be built as follows: a basic wage rated on the "subsistence-plus, or the minimum health-and-decency standard of life." would be the standard for both sexes; this minimum wage would be supplemented by an allowance equal to 30 per cent of the minimum wage for the wife, and an allowance of 25 per cent of the same for each child until the age of fourteen; the allowances would be financed by

16 Ibid., pp. 212-213.
assessments levied upon the employers which would be pooled into regional equalization funds to be administered by a joint board of employers and employees. 17

There are many important considerations that emerge in a controversial way in connection with the above plan, such as whether a state financed system would be more advisable than an industry one, and whether or not the productivity of single men will be reduced by a decrease in their basic wage rate, and whether or not employers would favor single workers over the married ones with dependents, and whether or not the economy of the nation with its system of the free market and "laissez-faire" would be hampered, if not destroyed, by a wage concept that could possibly bring about a decreasing rate of production through lack of incentive amidst single men and women, and whether or not the system should be a voluntary one or a compulsory federal program. As pertinent as such issues may be, in the main they present merely a superficial approach to the fundamental problem, that is, the search to discover the economic relationship between wages and allowances. To analyze the connection between wages and allowances, we shall study their potential characteristics under certain standard conditions.

In the situation where only one company in a competitive industry institutes a family allowance system, the

17 Douglas, Wages and the Family, pp. 226-244.
payment of allowances will increase the total outlay of wages of that firm. Since competition will limit the firm from raising prices, the company will be placed in the position of losing profits through increased wages. The firm, therefore, will be forced either to discharge the married men with dependents or discontinue the system; in either event the total amount of wages or the wage rate will be unchanged. However, if under the same circumstances the incentive of allowances attracted a higher standard of workers, then increased productivity might compensate for the higher total outlay of wages. Then, of course, the allowance system would tend to be similar to a bonus for a stepped-up output, and the firm would have received added goods for the additional wage outlay. It does not seem feasible that an employer would permanently hamper his profit position by granting allowances unless he could obtain productivity to compensate for the addition to the wage payment.

The above situation of a single firm with family allowances would be somewhat different if it were operating under monopolistic conditions. Then the firm could either raise its prices to make up the cost of the allowances, or it could maintain prices and lower profit. The former action would increase the total outlay of wages, but it would have a negative effect on the purchasing power of the consumer; the latter, which is an unlikely step, would provide
a wage increase for the married workers with dependents and
a total wage outlay rise although the bachelor's wage would
be lowered. Even in this monopolistic situation, it is
possible that employers might discriminate against workers
with dependents and thereby negativize the wage hike.

It should be suggested, also, that it seems somewhat
fictional to assume that the single men and women in a plant
would benevolently disavow their prevailing scale of wages
and accept large decreases so that fellow workers with
dependents could obtain a higher wage through allowances.
Does it seem credible to suppose that if A, a bachelor with
ten years longevity in a plant, and B, a married man with
a wife and five dependent children and with two years
service in a plant, were standing side-by-side in a produc-
tion line performing the same mission, that A would be con-
tent to have B obtain a wage almost three times that of A's
basic wage? It is a potential factor to consider that a
social upheaval might occur from such a sweeping attempt to
redistribute the income.

The next case study is that of a group of firms of
all industries, paying a common rate of assessment into a
regional equalization fund; this situation is the ideal

Douglas' proposals, A would receive $800 each year in
wages, while B would receive $2040 each year, i.e.
$800 basic wage, $240 allowance for wife, $200 allow-
ance for each child yearly.
condition proposed by Douglas. In this situation there would be little discrimination against workers with no dependents as in the above situations since firms would pay into the equalization fund a fixed amount for each worker without regard for dependency status. However, since the funds are grouped in a regional way, all firms in a particular industry will not be a party to the allowance system. Thus, firms in different regions not members in an equalization fund would have cost advantages over contributing firms. The latter firms paying a higher labor cost than the former must obtain increased output per worker, or they will be priced out of the market. To equalize the wage costs in another way, the former firms could reduce sharply the basic wage price to compensate for the payment of allowances. Thus it seems axiomatic that in a competitive system even with the establishment of an equalization fund, the sum of direct wages plus the assessments to the fund must not be greater than the normal total outlay for wages.

The next situation would be one in which the firms were grouped in an industry basis, not a regional one, in connection with paying assessments to the equalization fund. Here, if there are firms in the industry not a party to the plan, then the results in a competitive society will be the same as above. If, however, the entire industry contributes

for the allowances, then the added total wage outlay must affect profits, wages, or purchasing power. The entrepreneur can either cut the basic wage rate of workers sans dependents, or raise prices and provide an inflationary condition to decrease consumer purchasing power, or else sustain a lowered income. Another factor to be considered is that an industry with a family allowance system may attract workers from industries not utilizing the system so that the competition among workers for positions in the former industry may tend to force down the wage rate. It seems most likely that the payment of these allowances will be cut out of the wage rate so that besides the redistributational effect of the system, labor will not gain in stature.

Finally, we should picture an economic situation in which all industries are bound together into a single equalization fund for the payment of family allowances; this set-up could only occur through Congressional legislation. If in this picture both assessments and allowances are standardized throughout the country, then the cost of the family allowances must be an incidence on either profits or wages; the consumer would not foot the bill through the payment of higher prices, because inter-industry competition would tend to bring forth the proper market price. Taking the cost of allowances from profits would bring about curtailed production, a forcing of marginal firms out of business, and a
cumulative process that would increase unemployment. Through unemployment there would emerge strong competition for available jobs with its concomitant, a wage fall. Thus, it seems apparent that once again the payment of allowances will be burdensome in the main upon the wages.

The strength of the bargaining position of labor will be an important factor in any of these case studies. If potent labor unions were the driving force behind the family allowance system, then it might be comprehensible to consider that the unions would attempt to restrict industry from lowering the wage rates to compensate for the added costs. However, it is improbable that unions would foster such a plan since the condition of unequal pay for equal work would cause deep unrest between union members and make too complex yearly drives for a general wage increase.

In conclusion, an analysis of the family allowance system would seem to suggest that: (a) labor will not receive an increase in total wage payments by means of allowances; (b) the system will cause a redistribution of income in which the workers with dependents will have a larger share of the total income, and the workers without dependents a smaller share; (c) although the total wage outlay will be unmoved, workers without dependents will suffer a decrease in the minimum wage rate, while workers with dependents will attain increased wages. This critique would tend to
suggest arguments in strong opposition to Douglas' theory in favor of the family allowance system. Although Douglas suggested many of the stumbling blocks to the scheme, his idealistic enthusiasm for overcoming poverty seems to have overpowered his rational thinking in relation to the practical workings of such a plan. It is almost incomprehensible to believe that he would have advocated a plan which had as its rudimentary piling for support a method of robbing Peter to pay Paul.

B. The Measurement of the "Condition of the People"

At this point in the mid-twentieth century as in centuries past, the paramount economic issue of the times is the material well-being of the worker and his family. The success or failure of the working class to advance their ways of life has repercussions throughout the breadth of the world. If the material progress and the welfare of the workers are advancing toward a more improved standard-of-living through the years, then the structure of the economic system, and to an important extent the political organization, will be strongly entrenched and free from revolutionary attacks and probes; if, however, the working population is being pushed strongly toward greater poverty and insecurity, then society will be ripe for a change of economic methods. Just two decades past during the Great
Depression, the desperate plight of the workers necessitated a minor revolution in the capitalistic economy of the United States as many forms of government regulation were able to become imbedded in the economy, displacing the workings of "laissez-faire." It is comprehensible to speculate, moreover, that had communistic Russia preached and acted in a peaceful fashion and thereby played a "waiting game" in its relationship with the world, then without the stimulus of defense production, the capitalistic society of the United States might have slowed down gradually so that the material welfare of the worker would have a downward trend; during this trend of the working population's economic disintegration, it is patent that communism or socialism could have permanently displaced our economic methodology.

Douglas was vitally aware of the importance of the material progress and welfare of the worker in the economic society. His awareness of the problem was reflected in the following statement:

But the ultimate test for any industrial system is the degree to which it improves the condition of life of the people who live under it. Material welfare is by no means all of life; but in a world in which scarcity still prevails, it is a necessary prerequisite for the attainment of the great masses of mankind of those other aesthetic and emotional values which deepen and broaden the experience of those who realize them.20

In order to attempt to discover the position of the worker,

20 Douglas, Real Wages, p. 3.
he decided that he must measure the movement of real wages during a particular period of time. By thus analyzing the relationship of wages and earnings to the cost of living, he could determine whether the effective purchasing power of the American workers had increased or decreased, and by what extent.

The movement of monetary wages and salaries would not alone reflect the economic progress of the workers. The "take home pay" of the workers could have been jumping in leaps and bounds over a long-run period, and yet the material welfare of that class could be falling steadily. If inflation were rampant, as for example in Germany after World War I when millions of marks were needed for a loaf of bread and in China during the past decade when it was customary to witness the people pushing wheelbarrows laden with paper money to buy a few necessities, then the monetary trend of wages would not point toward economic stability. Therefore, the trend of real wages was the most essential determinant of economic progress or stagnation.

Douglas directed most of his tremendous driving power in research upon the study of real wages during the decade of the Twenties. After his minor works on the subject in 1921, in which he traced real wages from 1890-1918, and

real wages from 1895-1924, Douglas brought forth in 1930 his Real Wages in the United States, 1890-1926 which has become an economic classic. This work was the culmination of six years' exhaustive study and analysis of wage rates, earnings, the cost of living and unemployment; it required approximately 18,000 work hours of time and some 3,000,000 statistical computations to produce this searching book.23 In appraising the works on wages for the first half of the twentieth century for the Monthly Labor Review it was said:

The most impressive effort during the half-century to measure the material progress of the American working class is embodied in Paul H. Douglas' Real Wages in the United States, 1890-1926....This volume remains the single most important reference source on levels and trends in wage rates, hours, and earnings for the period to which it relates.

In Douglas' initial work on real wages, "The Movement of Real Wages, 1890-1918," his aim was to continue for the years 1912-1918 a study of Dr. Rubinow's which had been an investigation of real wages from 1890-1912.25 Douglas'


23 Douglas, Real Wages, p. ix.


work, following Dr. Rubinow's method, was a study of the relative purchasing power of an hour's work and a full-time week's work. In the erection of indexes, he utilized the retail food prices of fifteen commodities for the cost-of-living trend; for wage rates he used payroll figures of three groups of workers and union rates for seven groups. After comparing his indexes of wages with the cost of living, Douglas concluded that:

...the return in commodities which the American workman received for an equal length of time worked (one hour) [in 1918] was from 10 to 20 per cent less than it was in the decade 1890-1899, and from 7 to 17 per cent less than it was before the sharp upward movement of prices in 1916. The purchasing power of the established week's work, moreover, was from 20 to 30 per cent less than in 1915. American labor as a whole, therefore, cannot legitimately be charged with having profiteered during the war.

It is important to note that Douglas abnegated the conclusions reached in the above study by pointing out the errors in the standards upon which the findings were based. The cost-of-living index based on the thirty retail food prices of the Bureau of Labor Statistics increased from 1907-1914 much faster than other living costs; the union wage data also tended to underestimate the upward movement of wages from 1914-1918.

27 Ibid., pp. 425-426.
In the work *Real Wages in the United States, 1890-1926*, Douglas first tackled the job of finding the cost of living for that period so that he could have a yardstick upon which to measure the wage trend. With the data he had available, he erected a cost-of-living estimate for 1890-1914 based on retail food prices of the Bureau of Labor Statistics, probable retail prices of forty-four food commodities as estimated from wholesale prices, and probable retail prices of clothing, fuel and light, furniture, tobacco and spirits as again estimated from wholesale prices; these figures were weighted according to the Bureau of Labor Statistics. 29 Then for 1915-1926 he made up a general index for the entire country by utilizing the average of the indexes of the total cost of living in thirty-three separate cities, and then weighting them in relation to the population of the city. 30 Then he tied the two indexes of living costs together to present the yearly picture of the trend in the cost of living. Although the cost-of-living index was derived in a piecemeal fashion, it was strengthened by the use of two different sets of weights: one for 1890-1914 which was based on family expenditures in 1901, the other for 1914-1926 based on family consumption in 1918. 31 Thus the two

different weighting standards allowed for potential changes in consumption habits at different periods of time. The trend of the cost of living is shown in Table V and Chart I for the period 1890-1926.

Douglas' index of the cost of living for the period covered was subject to many defects because of the dearth of statistical records which are available in contemporary times. Professor Alvin Hansen criticized the index as being too weak to suppose exact measurements had been formed; the index should only be used as spotty guideposts of what has occurred in the cost of living, not as truths upon which conclusions might be drawn since people in 1926 did not live in the same way as those in 1890, thus there was no common ground upon which to measure the economic goods and services of the trend. However, it may be noted that even with the defects caused by unavailable statistics, the Douglas index was the best cost-of-living trend devised, and it served as a suitable basis upon which to measure the real wages of the period.

Having obtained a cost-of-living index, Douglas' next step was to obtain an adequate index of the movement of wage rates so that the measurement of the decrease or increase in the purchasing power of money wages could be ascertained. This was a complex problem, since there were many different

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### Table V

Combined Index of Relative Living Costs in Non Agricultural Areas

<table>
<thead>
<tr>
<th>Year</th>
<th>Indexes of Living Costs</th>
<th>1890-99 = 100</th>
<th>1914 = 100</th>
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<tbody>
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<tr>
<td>1908</td>
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<tr>
<td>1910</td>
<td>128</td>
<td>92</td>
<td></td>
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<tr>
<td>1912</td>
<td>133</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>1914</td>
<td>139</td>
<td>100</td>
<td></td>
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<tr>
<td>1916</td>
<td>149</td>
<td>107</td>
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</table>

Adapted from Douglas, *Real Wages*, p. 60.
Chart I

Combined Index of Relative Living Costs

33a Douglas, Real Wages, p. 61.
methods of measuring wages and earnings. However, Douglas adopted his units of measurement and explored the maize of wage data.

Initially, he measured the hourly and full-time weekly wages and earnings and the hours of work for manufacturing, the building trades, coal-mining, transportation, government and professional workers, and unskilled workers. Then these indexes which included in averages of hours and of hourly earnings 7.0 million workers in 1890, 14.9 million in 1922, and 14.0 million in 1926 were aggregated to show the trend in all industry. Table VI and Chart II relate the results of the research in the movement of work hours per week in all industry; the average work week decreased from 58.4 hours to 49.8 hours, or approximately 14 per cent, from 1890–1926. Thus greater leisure was gained for the worker as the average working hour was reduced 8.6 hours per week for the period covered. Table VII indicates the general upward trend of real hourly earnings with most of the increase concentrated in the years after World War I. Table VIII points up the results of work on full-time weekly earnings and demonstrates that money wages increased from $10.88 in 1890 to $31.24 in 1926 and real wages from an index of 97 to 119 for the same period. Moreover, Chart III indicates that in the same period while coal-mining, farm labor, the professions,

34 Douglas, Real Wages, p. 204.
Table VI

Standard Hours per Week in All Industry[^35]
(Weights = number employed in each year)

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Hours per Week</th>
<th>Relative Hours 1890-99 =100</th>
<th>1914 =100</th>
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[^35]: Adapted from Douglas, *Real Wages*, p. 208.
Chart II

Average Standard Hours per Week in All Industry

36

Douglas, Real Wages, p. 209.
Table VII
Real Hourly Earnings in All Industry

<table>
<thead>
<tr>
<th>Year</th>
<th>Real Hourly Earnings (1890-1899 = 100)</th>
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37 Adapted from Douglas, *Real Wages*, p. 205.
<table>
<thead>
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<th>Year</th>
<th>Real Full-time Weekly Earnings (weights = number employed in 1890)</th>
<th>Real Full-time Weekly Earnings (weights = number employed each year)</th>
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<tr>
<td>1926</td>
<td>119</td>
<td>125</td>
</tr>
</tbody>
</table>

38 Adapted from Douglas, *Real Wages*, pp. 210-211.
Chart III

Average Annual Percentage Gain or Loss in Purchasing Power of a Full-time Week's Work in Various Major Industries. 39

(weights = number employed in each year)

Relative Hours: 1890 - 1899 = 100

Loss in %

Gain in %

Coal Mining

Farm Labor

Professions

Building Trades

Transportation

Manufacturing

Unskilled Labor

Government Employment

building trades, and transportation showed a per cent gain
in purchasing power on full-time weekly earnings, manufactur-
ing stood still, and unskilled labor and government employees
lost ground.

It is important to note several factors from these
tables: (1) although real hourly earnings in 1926 were
38 per cent higher than in the 1890’s, real full-time weekly
earnings did not increase as fast as the hourly earnings
because of the gradual reduction in the length of the work
week; (2) the movement of real full-time weekly earnings
came mainly in the decade of the 1920’s as the index for the
period from 1890-1914 was very sluggish; in comparing the
tables for real hourly earnings and real full-time weekly
earnings the following movements are indicated: a) 1890-1900,
there was little difference between the two indexes; b) 1900-
1914, because of a shortening of the hours in the work week,
real full-time weekly earnings remained constant while real
hourly earnings increased 5 per cent; c) 1914-1920, the
latter again increased 6 per cent while the former failed
to move during this war period because of another reduction
in the hours of the work week; d) 1920-1926, the real hourly
earnings increased 23 per cent and real full-time weekly
earnings 20 per cent during this time of strong movement.

Secondly, the average annual earnings of employed
workers, or the total outlay of monetary wages disbursed in
a year divided by the average number of workers was derived for transportation, coal-mining, public service industries, government employees, clerical workers, teachers, ministers, and manufacturing. The area covered was vast as Douglas estimated that the statistics obtained were in 1920 for 16.9 million employees, or 73 per cent of the entire labor force working for wages or salaries. Moreover, this classification of earnings was superior to the weekly statistics in showing wage progress because of the inclusion of absenteeism, overtime, and temporary layoffs in the wage indexes. The main weakness of this grouping stems from the fact that prolonged unemployment is not considered here, and thus does not reflect the true material advance of the workers.

However, the statistics which Douglas calculated were another trend of material progress; they are shown in Table IX. An analysis of this table reveals several important characteristics: (1) there was an increase of 35 per cent in the real average annual earnings of both urban and farm labor between 1890 and 1926, and yet only 20 per cent of the total gain (100 in 1890 to 107 in 1914) was obtained by 1914 whereas 54 per cent of the total gain (116 in 1920 to 135 in 1926) was incurred in the period from 1920-1926;

Table IX

Average Annual Earnings and Real Earnings in All Industries (1890-1899 = 100)

<table>
<thead>
<tr>
<th>Year</th>
<th>Number employed in 1890</th>
<th>Number employed in each year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Excluding farm labor</td>
<td>Including farm labor</td>
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<tr>
<td></td>
<td>Excluding farm labor</td>
<td>Including farm labor</td>
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<tr>
<td>1890</td>
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<td>121</td>
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<tr>
<td>1926</td>
<td>125</td>
<td>123</td>
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</tbody>
</table>

41 Adapted from Douglas, Real Wages, pp. 392-393.
(2) when comparing real average annual earnings with real full-time weekly earnings, it is discernible that the former gained 10 per cent more for the period than the latter because of the inclusion of bonuses, a steadier work factor, and overtime payments; (3) when farm labor is added to urban work, it is accountable for a gain of 6 per cent in the total real average annual earnings in 1926 which indicates the importance in the gains made by the rural workers to the whole wage picture; (4) the figures for 1926 of 123 in column three and 135 in column 5 point out that of the 35 per cent gain of the entire period two thirds only was effected by increased real earnings for the same work while one third received gains through a movement to better paid positions.

Douglas was aware of the fact that he would not be able to measure the true trend of real wages from 1890-1926 without considering the element of unemployment. To make an accurate appraisal of the material progress of the laboring class it was necessary to incorporate the fluctuations of the volume of unemployment with the real wages for each year. If, for example, the index of real annual wages of the employed were steadily rising while the unemployment index was rising at a similar rate, then there would be no gain in the overall real wages for the working class. In this light he stated:

If we are to determine the progress made by the wage-earners as a whole, we must therefore try
to measure these fluctuations in the relative amount of unemployment and, by combining them with the relative real earnings of those who have been employed, arrive at an index of the relative real income obtained by the entire working class considered as a unit. 42

Douglas, therefore, estimated the yearly unemployment for the period 1890-1926 mainly by subtracting the number of employees from an approximate total labor supply. He calculated the average unemployment in the manufacturing and transportation industries from 1889-1926 as 7.5 per cent; 43 adding the building trades it was 8.7 per cent from 1897-1926; and a total of the foregoing plus mining made it 10.2 per cent from 1897-1926. 44 With the calculated index of unemployment, broken down for different industries, Douglas related the statistics to the earnings of the various industries to derive the real wage trend which would more closely approximate reality than any other measurement since it would be corrected for the unemployment movement.

In the manufacturing and transportation industries, the largest group of workers covered in Douglas' unemployment research, the average annual earnings of the employed workers were translated into average annual earnings of the total supply of workers attached to the industries; then

42 Douglas, Real Wages, p. 403.
43 Ibid., p. 446.
44 Ibid., p. 458.
these earnings were changed to relatives of money and real earnings; and finally changed into the real earnings of both the attached and the employed workers. The results obtained from this work will be seen in Table X and bring forth the following salient conclusions: (1) the index of the real earnings of those attached to these industries increased in normal years from 5 to 8 per cent after 1900 above what they were from 1890-1900 because of both the large volume of unemployment during that decade and the relatively steadier employment from 1900-1926; not because of increased purchasing power by the employed workers; (2) the unemployment factor causes a more violent fluctuation in real earnings of the whole labor class from year to year than for those who remain employed; for example, in the depression year of 1921 the real earnings of those attached dropped from 121 to 102 while the real earnings of the employed workers increased from 114 to 116 since the cost of living fell faster than the wages; (3) the lower rate of unemployment in the later years of the Twenties brought about an increase of from 7 to 8 per cent in the real earnings of the laboring class.

Similar research was performed for the coal-mining and building trade industries, and for unskilled workers. The data was less searching than that available for manufacturing and transportation, but Douglas worked out
Table X

Relative Movement of Real Annual Earnings of Those Attached to the Manufacturing and Transportation Industries as Compared with that of the Workers Actually Employed Therein. 45

<table>
<thead>
<tr>
<th>Year</th>
<th>Relative Real Annual Earnings (1890-1899 = 100)</th>
<th>Relative Real Annual Earnings (1890-1899 = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Those Attached</td>
<td>Those Employed</td>
</tr>
<tr>
<td>1890</td>
<td>106</td>
<td>100</td>
</tr>
<tr>
<td>1891</td>
<td>109</td>
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<td>1908</td>
<td>94</td>
<td>96</td>
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</tbody>
</table>

45 Douglas, Real Wages, p. 465.
relationships between employed and attached workers in each separate field and obtained results showing germane trends to the one explained above.

Professor Alvin Hansen criticized Douglas' unemployment index very vigorously since he contended that the method of subtracting the total employed workers from a potential total labor supply in an industry could not be accurate and would lead to a wide margin of error. He felt that Douglas should not have drawn such fine estimates of unemployment and real earnings conclusions from such a hollow foundation of statistics. 46

Douglas continued the measurement of real wages only through the period 1926-1928. In his research on that period he did not utilize unemployment data, and therefore derived statistics only for the employed urban and farm group. A summation of the results of his work as shown in Table XI points out that real earnings for the groups increased by 2 index points in 1927, and 4 index points in 1928, or a total gain for the two years of 5 per cent. 47

It should be noted that in this work the base year for 100 is 1914 unlike the base of 1890-1899 in Real Wages in the United States. Aside from the gain in real earnings as indicated above, an analysis of the movement of real earnings

47 Douglas and Jennison, op. cit., p. 27.
Table XI

The Movement of the Average Earnings of Both Urban and Rural Employed Workers, 1926-28.

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Annual of the Employed Workers (in Dollars)</th>
<th>Relative Annual Earnings (1914=100)</th>
<th>Relative Real Annual Earnings (1914=100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1926</td>
<td>1,375</td>
<td>219</td>
<td>126</td>
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<td>1927</td>
<td>1,375</td>
<td>219</td>
<td>128</td>
</tr>
<tr>
<td>1928</td>
<td>1,405</td>
<td>224</td>
<td>132</td>
</tr>
</tbody>
</table>

48 Douglas and Jennison, _loc. cit._, p. 27.
for 1927 and 1928 presented no changes from the 1890-1926 period.

The movement of real wages having been determined, there were several other considerations to be analyzed in order to obtain a more perfect view of the material progress of the laboring class. Through research Douglas determined that government and charitable services had added 7 per cent in free services to the wage earner, and 5 per cent had been added by a decline in the number of dependents. Thus, having seen previously in statistics the gain of 35 per cent in the real wages of the annual employed worker in 1926 over the 1890-1899 period and the gain of from 7 to 8 per cent in real earnings through the lower unemployment rate in 1926, an addition of the free income and the lowered dependency rate per employed worker to the formentioned would indicate that the real earnings in 1926 for the working class were approximately 55 per cent greater than for the period of 1890-1899.

It was not sufficient for Douglas to merely provide the statistical measurement of the real earnings for the period, but he had to attempt to spell out also why the material progress of the workers had advanced as it had. He based the upward trend of real wages upon the great increase in productivity for the period. The physical output

49 Douglas, Real Wages, pp. 481-491.
per employee greatly surpassed real earnings because of increases in the costs of marketing and distribution and due to higher prices for consumers' goods caused by a larger share of total production being used for capital goods rather than consumers' items. The relationship between physical productivity and real earnings in the manufacturing industry can be depicted in Table XII for the period 1899-1925 wherein it is shown that physical productivity per worker increased 54 per cent, as real earnings lagged behind with a gain of only 30 per cent.

On the other hand, value productivity based both upon the physical production of goods and the exchange ratio at which these goods were sold would provide a better comparison of real earnings and productivity since wages are paid from value product, not physical product. Douglas compared value productivity with real earnings both in The Theory of Wages and Real Wages in the United States and determined that for the period 1890-1925 the laboring class in the manufacturing industry was receiving its just share of the value product of the industry. Table XIII would tend to point out that real earnings were running ahead of value productivity by a wide margin up until 1919, contra to the statistics on physical productivity, and that

50 Douglas, Real Wages, pp. 510-514.
51 Ibid., p. 525.
Table XII
Comparative Movement of Real Earnings and Physical Productivity per Employee in all Manufacturing

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Annual Earnings (in dollars)</th>
<th>Relative Real Earnings</th>
<th>Relative Physical Productivity per Employee</th>
<th>Percentage Divergence of Real Earnings from Physical Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>1899</td>
<td>437</td>
<td>100</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>1904</td>
<td>496</td>
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<td>1909</td>
<td>548</td>
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<td>-9</td>
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<td>1914</td>
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<td>-9</td>
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<tr>
<td>1925</td>
<td>1330</td>
<td>130</td>
<td>154</td>
<td>-16</td>
</tr>
</tbody>
</table>

52 Douglas, Real Wages, p. 510.
Chart IV

Comparative Movement of Real Earnings and Physical Productivity per Employee in all Manufacturing.

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Table XIII

Comparison of Relative Value of Product per Employee with Real Earnings for Nine Major Groups of Manufacturing, 1899 = 100

<table>
<thead>
<tr>
<th>Year</th>
<th>Relative Real Earnings per Employee</th>
<th>Relative Value Product per Employee</th>
<th>Percentage Deviation of Relative Real Earnings from Relative Value Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>1904</td>
<td>101</td>
<td>98</td>
<td>+3</td>
</tr>
<tr>
<td>1909</td>
<td>105</td>
<td>97</td>
<td>+8</td>
</tr>
<tr>
<td>1914</td>
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<td>1919</td>
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<td>115</td>
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<td>+10</td>
</tr>
<tr>
<td>1923</td>
<td>128</td>
<td>121</td>
<td>+6</td>
</tr>
<tr>
<td>1925</td>
<td>125</td>
<td>126</td>
<td>-1</td>
</tr>
</tbody>
</table>

not until 1925 was value productivity able to surpass real earnings by a slim margin.

Although Douglas had attempted to prove statistically that the purchasing power of labor had kept apace with the increase in value productivity, his work did not fill in all the gaps in his conclusions. Wages in either a new industry or a monopolistic one would not be determined by the value productivity in manufacturing alone, but by the value productivity of labor in all of industry, finance, farming, government, and other services. Thus, Hansen believed that Douglas should have compared the real earnings of labor with the total quantity of goods and services produced, rather than with a few groups of industries, so that his conclusions about the overall trend of real wages would have a firmer foundation.

Although Douglas' conclusions concerning the rise of real wages may not have been drawn perfectly tight by means of statistical methods, the foundations for his views for this period seem to be valid. The purchasing power of the workers was increased not only because of rising productivity, but also through a retardation of the growth of the labor supply caused by a slower birth rate and immigration rate, a tremendous growth in capital supply, and

56 Douglas, Real Wages, pp. 564-566.
57 Ibid., p. 567.
However, the major contribution towards an improved development of purchasing power was the surge in productive output per worker. An increase in productivity of a product would tend to: either bring forth a better profit outlook for the employer, stimulating an addition of workers to increase production further, thus creating increased competition for labor and higher wages; or else reduce the cost, and thence the selling price of the goods, thus lowering the cost of living and increasing real wages. Retarded industries which could not raise their productivity would be recipients of the same rise in real wages, moreover, since the value productivity of the workers would increase in line with other growing industries because of a higher return for each unit of their product.

At the mid point of the twentieth century, the measurement of the purchasing power of the working class is still one of the most vital economic problems of the day. With the cost of living rising in great spurts in the quasi-war economy of the United States, the labor unions are constantly demanding higher and higher wage advances. Unionism during the past decade with its membership in the tens of millions and its huge treasuries has become the leading factor in fostering increases in wages by means of its potent bargaining power. Douglas had contended that

58 Douglas, Real Wages, pp. 562-564.
unionization was a tertiary force in provoking the rise in real wages of the 1890-1926 period since the rise in productivity was the omnipotent factor; today, however, although the increased productivity of the worker may be one of its strongest bargaining points, trade unionism has superseded productivity as the main cause of increasing real wages.

*Real Wages in the United States, 1890-1926* has proved to be one of the most significant works ever written in the field of wages. The outstanding value of the work is not the synthesis which Douglas has drawn concerning the causes of the increase in real wages of the working class, but rather the enormous range of statistics developed on the cost of living, hourly, weekly and annual wages and earnings, and unemployment. Through this pioneering research effort in the field of real wages, a method of analysis was constructed which could measure more accurately than any former method the economic position and movement of the working class. The results of Douglas's arduous toil which indicated an increase of over 30 per cent in the real wages of the average manufacturing worker during the 1890-1928 period in spite of a gradual reduction in the number of hours worked per week were substantial evidence of the true merit of the free enterprise economic system of American democracy. Moreover, by developing indexes as measuring rods of different groups of workers, he was able to probe
into the differential movements of real wages between these groups. Then, an approximate interpretation could be made as to the relative growth of the purchasing power between types of employment. Thus, Douglas' work on the trend of real wages has opened new vistas through which the problem of wage movements and the condition of workers could be interpreted in a more scientific fashion.

C. Wage Theory

In a recent conversation with Senator Douglas in Boston, 59 when I raised the question of his theory of wages to him, he inquired if I had read his inauguration address as President of the American Economic Association. 60 When I replied in the affirmative, he remarked that that work contained a synthesis of all of his thirty years' work upon the wage theory; and that it was his major contribution toward supporting the marginal productivity theory which he had adopted from von Thünen. It is interesting to note, moreover, that he remarked that he had had hopes of continuing his inductive study of wages to further substantiate the marginal productivity theory, but that a short time after

59 The Copley-Plaza Hotel, Boston, Mass., on 27 January, 1951.
his Presidential address, he was drafted as the Democratic Party's candidate for United States Senator from Illinois; thus, his work on wage theory was discontinued.

In his work on the theory of wages, Douglas did not attempt to expound a new theory discovered by himself since he had accepted the marginal productivity theory as the best "explanation of the way in which wages and interest are determined in a competitive and capitalistic society." Thus, Douglas followed the work of both von Thünen who had first discovered that the rates of wages and interest were determined by the addition of the product which was made by the last unit of labor and capital, and John Bates Clark who stated that "general wages tend to be equal to the actual product created by the last laborer that is added to the social working force." To Douglas, von Thünen's discovery of the theory of diminishing incremental productivity and the marginal determination of wages and interest, and Clark's rediscovery of marginal productivity were the correct explanations of the theory of wages. His job,

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61 Loc. cit.
63 Von Thünen, J. H., Der Isolierte Staat (Rostock, 1842; Reprinted by G. Fischer Jena, 1930).
however, was to test the validity of the marginal productivity theory by means of inductive, quasi-mathematical, and statistical research. In relation to his work in this field, Douglas stated in The Theory of Wages:

We need to know whether the assumed curves of diminishing incremental productivity are merely imaginative myths or whether they are real, and if the latter what their slopes are. We need to know more about the supply functions of the factors of production and whether the actual processes of distribution furnish any degree of corroboration to the inductive tendencies discovered. This book is an attempt to do just that. Since it is a pioneering study and since I am certainly not a mathematician, it undoubtedly has many lacunae and defects. But it is hoped that it at least furnishes a fruitful method of attack and that its results have significance.65

The marginal productivity theory which Douglas worked upon stated that entrepreneurs would employ workers until the value of the goods produced by the last worker employed was equal to the wages paid to that last worker. If the wages of the employees were lower than the value of the added goods produced, the entrepreneurs would continue to hire more workers and expand their production since they would be adding to their profits. The expansion of production would not only lower the selling price of the goods because of the increased supply of units on the competitive market, but also it would make for a scarcity of workers and higher wages. When the entrepreneur would discover that

65 Page xii.
his profits would be shrinking or costs were higher than profits because of the higher wage rates, he would cut off hiring additional workers at the point where the wage of a worker hired equaled the value of the goods produced by that worker. At this point productivity would bring the optimum profit to the entrepreneur; thus, the wage rate would be set by the exchange value of that marginal product produced by the last worker. 66

In 1928 Douglas, with the assistance of Professor Cobb of Amherst College, first attempted to discover the relationship between labor, capital, and production. 67 The work was a time-study for manufacturing in which index numbers over time were made for labor (L), the number of men employed; capital (C), the amount of capital available for use; and product (P), the quantity of physical product. By statistically working with these three variables, it was discovered that the index of production was normally between the indexes of labor and capital; moreover, production was normally closer to labor than capital. A formula, a simple homogeneous function of the first degree, was derived to work in the statistical data; it was \[ P^1 = 1.01L^{0.4}C^{0.4} \] or, labor constituted three quarters and capital one quarter of

68 Ibid., p. 151.
any additions to production. Then, the formula was revised so that \( P^1 = bL^{1-k} \); \( b \) was independent of \( L \) and \( C \) and \( k \) was constant and equal to \( 3/4 \), and the sum of the exponents was equal to unity. 69 By using these formulas it was possible to compare the theoretical index of production \((P^1)\) for each year of the period covered in the work, 1899-1922. Thus, the Cobb-Douglas function was developed to test statistically the theory of marginal productivity; if this theory were applicable, and competition pure, labor's share in total productivity would be equal to \( P \), or \( k \). The results of the computations showed that \( k = .75 \) and \( 1-k = .25 \) and indicated that except for the year 1922 when the per cent deviation was +13, the differences between the theoretical and the actual production were small, the average deviation of \( P^1 \) from \( P \) being 4.2 per cent. 70

A further interesting comparison is afforded by the studies of the National Bureau of Economic Research into the proportion of the manufacturing product which went to labor during the decade 1909-1918. They found that wages and salaries formed on the average 74 per cent of the total value added by manufacturers during these years. We have found in our formula that when we attribute to labor 75 per cent of the product, we get a close consilience to the actual normal course of production. 71

The close corroboration between the theoretical and

69 Cobb and Douglas, op. cit., p. 156.
70 Ibid., pp. 152-153.
71 Ibid., p. 163.
actual figures made in this study reinforced Douglas' belief at that time that with an accurate measurement of labor and capital, productivity could be computed with a very close approximation to reality by means of the equation

\[ P = 1.01 L^{\frac{1}{2}} C^{\frac{1}{2}} \] or \[ P = bL^kC^{1-k}. \]

Douglas' initial work in attempting to inductively substantiate marginal productivity was severely criticized by Professor Slichter. Since the theory assumed that given changes in all factors would bring about proportionate changes in their joint product, Slichter felt that Douglas did not establish the validity of the theory by statistically pointing out the relationship between labor and capital on one side and the volume of production on the other. Both land and entrepreneurship were omitted from the analysis, and thus, the conclusions could be inaccurate. Moreover, Slichter questioned the permanent validity of the constructed formula since "the assumption that x times the factors of production will yield x times the product presupposes that technique remains substantially unchanged. Consequently, an equation which yields a fairly satisfactory index of physical product for one or two decades would probably not do so for longer periods." Finally, he


73 Ibid., p. 170.
remarked that since the equation held only "ephemeral accuracy," it could not be considered "the law of produc-
tion." 74

In his Hart, Schaffner, and Marx Prize work, The
Theory of Wages, Douglas continued the study of the relative
effect of labor and capital upon production. Professor
Cobb, once again using the formula he derived in 1928 in a
time study, analyzed the State of Massachusetts for the
period 1890-1926 and discovered that
\[ P^1 = 1.007 L^{0.743} C^{0.257} \]
that is, labor's share of the product was approximately
74 per cent and capital's share was 26 per cent. 75 The
average deviation of the theoretical product from the actual
was 6.5 per cent. Thus, the shares of the product of both
labor and capital for the period covered in Massachusetts
were almost exactly the same with the computations unearthed
for the United States from 1899-1922. The Massachusetts
investigation seemed to determine that: (1) an increase of
1 per cent in labor with capital constant normally brought
about an increase of \( \frac{74}{100} \) of 1 per cent in physical product,
and an increase of 1 per cent in capital with labor constant
produced normally an increase of \( \frac{26}{100} \) of 1 per cent in physical
product; (2) an increase of 1 per cent in labor would cause
a decrease of \( \frac{26}{100} \) of 1 per cent in its marginal productivity,
and the same increase in capital would cause a reduction of
\( \frac{74}{100} \) of 1 per cent in its marginal productivity; (3) and

74 Slichter, loc. cit., p. 170.
since the elasticities of labor and capital were calculated as, -3.85 and -1.35, an increase of 1 per cent in the rate of wages would tend to bring about a decrease of 3.85 per cent in the quantity of labor demanded, and a similar increase in the rate of interest would cause a decrease of 1.35 per cent in the amount of capital demanded. 76

The statistics of this investigation were not in close agreement, however, if the period from 1921-1926 were omitted. The value of k was raised to .882 and 1-k lowered to .118 if the period covered was that of 1890-1920. 77 The fact that the omission of a six year period could change the values of the exponents so severely seemed to weaken the validity of the formula greatly. Douglas had no explanation to offer for this sharp disagreement of values.

In another time-study for New South Wales for the period 1901-1927, the Cobb formula revealed that

\[ P^1 = 1.0179L^{.6504}C^{.3496} \] 78

This was the most satisfactory study of the three made up to that time in reference to deviation since the average deviation of the theoretical from the actual product was only 2.2 per cent, whereas in the Massachusetts study it was 6.5 per cent and in the United States study, 4.3 per cent. 79

76 Douglas, Theory of Wages, p. 166.
77 Ibid., p. 161.
78 Ibid., pp. 167-169.
The final time series study was made for Victoria manufacturing for the period 1907-1929, in 1938. In this work it was discovered that under the Cobb formula, labor's share of the product was 71 per cent and capital's share 29 per cent. Thus, an increase of 1 per cent in the quantity of labor with capital constant caused a decrease of \( \frac{29}{100} \) per cent in the marginal productivity of labor, and a similar increase for capital with labor constant caused a \( \frac{71}{100} \) per cent increase in the marginal productivity of capital. The actual average share of the net value product received by labor for the period was 61 per cent while the formula had measured an average of 71 per cent; the deviation was, therefore, 14 per cent, a much larger deviation than had been computed in the previous studies.

The wide disparity between the actual and theoretical computations in Victoria could possibly have been caused by either the large degree of imperfect competition in Victorian manufacturing or the state system of wage-fixing.

In the first four time-studies made to measure the relative influence of \( L \) and \( C \) upon \( P \) under the formula
\[
P = bL^kC^{1-k},
\]
a summation of the results obtained appears


81 Ibid., pp. 223-224.

82 Ibid., p. 243.
Thus, the results of the research indicated a strikingly close agreement among the values found for $k$ in the different areas.

Even though there was close corroboration between the statistics discovered in the time-series studies, Douglas' inductive work on marginal productivity was attacked as follows:

1. The relationships between labor, capital, and product which had been found could have been purely historical and not causal.  
2. The formula, $P = bL^kC^{1-k}$, should be replaced by that of $P = bL^kC^j$ because the former was inflexible as the sum of the exponents was made equal to 1.0 and excluded the possibility of increasing or decreasing returns for the system, whereas in the latter the sum of the exponents $k$ and $j$ would not have to equal unity or 1.0.  
3. The time-series were faulty in that all the results obtained only minimized the errors in the production direction as the labor and capital

<table>
<thead>
<tr>
<th>Economy</th>
<th>Time Period</th>
<th>$k$</th>
<th>1-$k$</th>
<th>Elasticity of Labor</th>
<th>Elasticity of Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>1899-1922</td>
<td>.75</td>
<td>.25</td>
<td>-.25</td>
<td>-.75</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>1880-1926</td>
<td>.74</td>
<td>.26</td>
<td>-.26</td>
<td>-.74</td>
</tr>
<tr>
<td>New South Wales</td>
<td>1901-1927</td>
<td>.65</td>
<td>.35</td>
<td>-.35</td>
<td>-.65</td>
</tr>
<tr>
<td>Victoria</td>
<td>1901-1929</td>
<td>.71</td>
<td>.29</td>
<td>-.29</td>
<td>-.71</td>
</tr>
</tbody>
</table>

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84 Ibid., p. 401.

exponents were assumed to be correct; if the assumed exponents were minimized as well as production, then the results obtained would be entirely different than the measured statistics and would invalidate the value of the derived formula for measuring the actual marginal productivities of capital and labor. 86

Douglas recognized the defects of his time-series studies of marginal productivity in his Theory of Wages when he pointed out that "the equation of production need not be the same for all periods and economies." 87 Moreover, he remarked that, "one of the most interesting lines of investigation would indeed be to work out the relative amounts of capital combined with labor in the various countries and the relative effect of each upon production. This could "be studied in a cross-section fashion for any one year..." 88

Therefore, in 1939 in an attempt to overcome the criticism that his previous results demonstrated the effects of time, rather than productivity, Douglas made an inductive, cross-section study of manufacturing in the United States for the single year, 1909. 89 For 1909, the amounts of capital,

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87 Page 203.
88 Ibid.
labor, and productivity in each of a series of given industries were determined with each industry in that year as an observation, instead of each year as in the previous time-studies. Then, by utilizing the data obtained for ninety different industries and localities at a given point of time with the Cobb-Douglas function, the following results were obtained: (1) When \( P = bL^{k}C^{1-k} \), \( k \), the exponent of labor, was found to be .7496. (2) When \( P = bL^{k}C^{j} \), the Durand modification of the formula, \( k = .7418 \). Thus, the results tended to corroborate the results of the time-series study for American manufacturing for 1890-1922 in which the value of \( k \) was .75 in comparison with the almost identical present findings of .7495 and .7418.

The following year Douglas continued his work on the cross-section analysis and presented a study of manufacturing for typical years in Victoria, New South Wales, and Australia as a whole. In the five cross-section studies worked out in certain chosen years, each industry was taken as an observation with \( L \), the average number of laborers employed, \( C \), in the main total fixed capital, and \( P \), the net value added by manufacturing. The following results

90 Bronfenbrenner and Douglas, loc. cit., pp. 773-775.
92 Ibid., pp. 403-406.
were obtained from thus study using the formula $P = bL^{kCj}$ and minimizing in the $P$ direction:

<table>
<thead>
<tr>
<th>Time Period</th>
<th>$k$</th>
<th>$l$</th>
<th>$k+l$</th>
<th>Actual share of labor in value product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victoria 1910-1911</td>
<td>.74</td>
<td>.25</td>
<td>.99</td>
<td>.64</td>
</tr>
<tr>
<td>Victoria 1923-1924</td>
<td>.62</td>
<td>.30</td>
<td>.92</td>
<td>.65</td>
</tr>
<tr>
<td>Victoria 1927-1928</td>
<td>.59</td>
<td>.27</td>
<td>.86</td>
<td>.68</td>
</tr>
<tr>
<td>Commonwealth of Australia 1934-1935</td>
<td>.64</td>
<td>.36</td>
<td>.99</td>
<td>.61</td>
</tr>
<tr>
<td>New South Wales 1933-1934</td>
<td>.65</td>
<td>.34</td>
<td>.99</td>
<td>.51</td>
</tr>
</tbody>
</table>

The results indicated that: (a) in general, there was some evidence of diminishing returns in Australian manufacturing since the sum of the exponents was less than unity; (b) the values obtained were somewhat similar to the former time-series work since an average of $k$ for Victoria was .65 in comparison with .71 for the time series, and the New South Wales studies were exactly alike; (c) there was "a rough degree of correspondence between the actual share received by labor and that to be expected from the production function, and differences between them may possibly be explained (1) by errors in the data, (2) by the existence of imperfect competition, and (3) by the operation of the regulation of wages by the state."  

Again, in the following year, Douglas published the findings of another cross-section study for American

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manufacturing in 1919. This work was slightly different from the previous studies inasmuch as in this work: (a) in the Cobb-Douglas formula, $C$ represented not only fixed but also working capital; $L$ represented not only the former group of the average number employed, but also firm members and salaries officers of corporations; and $P$ represented the value added by manufacturing as before, but without any deductions for depreciation; and (b) the statistical data were taken from the Census of Manufactures for that year.

The results obtained in this study through the equation, $P = bL^kC^j$ were $k$, the exponent of labor, was .76, and $j$, the exponent of capital, was .25. Thus, the value of $k$ was almost exactly the same as the 1909 cross-section study when $k$ was .74; and too, it was in almost identical agreement with the time-series studies for the United States, 1899-1922, $k = .75$, and for Massachusetts, 1890-1926, $k = .74$. A disconcerting factor, however, in the study was that there was a decided difference in labor's actual and theoretical share of the value product; .60 in comparison with .76. Nevertheless, once again the value of $k$ was


96 Ibid., pp. 71-72.

97 Ibid., pp. 72-73.

98 Ibid., pp. 79-80.
found to be approximately $\frac{3}{4}$ so that the conclusion could be drawn that an increase of 1 per cent in wages, everything else constant, would bring about a decrease of 4 per cent in the number employed since the elasticity of demand for labor would be $-4.0$.

Senator Douglas had informed the writer in a personal conversation that his address delivered before the American Economic Association at his inauguration as President of that society, contained a summation of all of his inductive research on the marginal productivity theory. A careful study of the work substantiated the conversation. "Are There Laws of Production?" first, surveyed the development of the Cobb-Douglas formula as seen in past paragraphs; second, it outlined the findings of both the time-series and cross-section studies which have been reported in this paper; and, finally, it disclosed the findings of new inductive studies of the production function which had been made more recently. There were, therefore, in this article, "records for a total of twenty-nine inductive studies of the production function instead of the three which were reported upon thirteen years ago in The Theory of Wages." The following table (XIV) will attempt to summarize the main results of these studies since it is a consolidation of all the time-

99 "Are There Laws of Production?" loc. cit.
100 Ibid., p. 10.
Table XIV
The Values of the Production Function for Manufacturing

<table>
<thead>
<tr>
<th>Economy</th>
<th>Years</th>
<th>( P = b L^k C^j ) ( k ) ( j ) ( k+j )</th>
<th>( P = b L^k C^{1-k} ) ( k )</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Time-series</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U. S. (Series I)</td>
<td>1899-1922</td>
<td>( 0.81 ) ( 0.23 ) ( 1.04 )</td>
<td>( 0.75 )</td>
</tr>
<tr>
<td>II</td>
<td></td>
<td>( 0.78 ) ( 0.15 ) ( 0.93 )</td>
<td>( 0.90 )</td>
</tr>
<tr>
<td>III</td>
<td></td>
<td>( 0.73 ) ( 0.25 ) ( 0.98 )</td>
<td>( 0.76 )</td>
</tr>
<tr>
<td>IV</td>
<td></td>
<td>( 0.63 ) ( 0.30 ) ( 0.93 )</td>
<td>( 0.69 )</td>
</tr>
<tr>
<td>B. Cross-sections</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>1889</td>
<td>( 0.51 ) ( 0.43 ) ( 0.94 )</td>
<td>( 0.55 )</td>
</tr>
<tr>
<td></td>
<td>1899</td>
<td>( 0.62 ) ( 0.33 ) ( 0.95 )</td>
<td>( 0.66 )</td>
</tr>
<tr>
<td></td>
<td>1904</td>
<td>( 0.65 ) ( 0.31 ) ( 0.96 )</td>
<td>( 0.68 )</td>
</tr>
<tr>
<td></td>
<td>1909</td>
<td>( 0.63 ) ( 0.34 ) ( 0.97 )</td>
<td>( 0.66 )</td>
</tr>
<tr>
<td></td>
<td>1914</td>
<td>( 0.61 ) ( 0.37 ) ( 0.98 )</td>
<td>( 0.63 )</td>
</tr>
<tr>
<td></td>
<td>1919</td>
<td>( 0.76 ) ( 0.25 ) ( 1.01 )</td>
<td>( 0.75 )</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>( 0.63 ) ( 0.34 ) ( 0.97 )</td>
<td>( 0.55 )</td>
</tr>
<tr>
<td>C. Time-series</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victoria</td>
<td>1907-29</td>
<td>( 0.84 ) ( 0.23 ) ( 1.07 )</td>
<td>( 0.71 )</td>
</tr>
<tr>
<td>New South Wales</td>
<td>1901-27</td>
<td>( 0.78 ) ( 0.20 ) ( 0.98 )</td>
<td>( 0.86 )</td>
</tr>
<tr>
<td>D. Cross-sections</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>1912</td>
<td>( 0.52 ) ( 0.47 ) ( 0.99 )</td>
<td>( 0.52 )</td>
</tr>
<tr>
<td></td>
<td>1922-23</td>
<td>( 0.53 ) ( 0.49 ) ( 1.02 )</td>
<td>( 0.52 )</td>
</tr>
<tr>
<td></td>
<td>1926-27</td>
<td>( 0.59 ) ( 0.34 ) ( 0.93 )</td>
<td>( 0.64 )</td>
</tr>
<tr>
<td></td>
<td>1934-35</td>
<td>( 0.64 ) ( 0.36 ) ( 1.00 )</td>
<td>( 0.64 )</td>
</tr>
<tr>
<td></td>
<td>1936-37</td>
<td>( 0.49 ) ( 0.49 ) ( 0.98 )</td>
<td>( 0.50 )</td>
</tr>
<tr>
<td>Victoria</td>
<td>1910-11</td>
<td>( 0.74 ) ( 0.25 ) ( 0.99 )</td>
<td>( 0.75 )</td>
</tr>
<tr>
<td></td>
<td>1923-24</td>
<td>( 0.62 ) ( 0.31 ) ( 0.93 )</td>
<td>( 0.61 )</td>
</tr>
<tr>
<td></td>
<td>1927-28</td>
<td>( 0.59 ) ( 0.27 ) ( 0.88 )</td>
<td>( 0.60 )</td>
</tr>
<tr>
<td>New South Wales</td>
<td>1933-34</td>
<td>( 0.65 ) ( 0.34 ) ( 0.99 )</td>
<td>( 0.66 )</td>
</tr>
<tr>
<td>Average all Commonwealth and State Studies</td>
<td></td>
<td>( 0.60 ) ( 0.37 ) ( 0.97 )</td>
<td>( 0.60 )</td>
</tr>
<tr>
<td>Average Commonwealth studies only</td>
<td></td>
<td>( 0.55 ) ( 0.43 ) ( 0.98 )</td>
<td>( 0.56 )</td>
</tr>
<tr>
<td>Average State Studies only</td>
<td></td>
<td>( 0.65 ) ( 0.29 ) ( 0.94 )</td>
<td>( 0.66 )</td>
</tr>
<tr>
<td>E. Time-series</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td>1915-16</td>
<td>( 0.42 ) ( 0.49 ) ( 0.91 )</td>
<td>( 0.51 )</td>
</tr>
<tr>
<td></td>
<td>1923-40</td>
<td>( _ ) ( _ ) ( _ )</td>
<td>( _ )</td>
</tr>
<tr>
<td>F. Cross-sections</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Africa I</td>
<td>1937-38</td>
<td>( 0.66 ) ( 0.32 ) ( 0.98 )</td>
<td>( _ )</td>
</tr>
<tr>
<td>II</td>
<td>1937-38</td>
<td>( 0.65 ) ( 0.37 ) ( 1.02 )</td>
<td>( _ )</td>
</tr>
<tr>
<td>Canada</td>
<td>1923</td>
<td>( 0.43 ) ( 0.48 ) ( 0.96 )</td>
<td>( 0.52 )</td>
</tr>
<tr>
<td></td>
<td>1927</td>
<td>( 0.46 ) ( 0.52 ) ( 0.98 )</td>
<td>( 0.48 )</td>
</tr>
<tr>
<td></td>
<td>1935</td>
<td>( 0.50 ) ( 0.52 ) ( 1.02 )</td>
<td>( 0.48 )</td>
</tr>
<tr>
<td></td>
<td>1937</td>
<td>( 0.43 ) ( 0.58 ) ( 1.01 )</td>
<td>( 0.42 )</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1938-39</td>
<td>( 0.46 ) ( 0.51 ) ( 0.97 )</td>
<td>( _ )</td>
</tr>
</tbody>
</table>

series and cross-sections made for manufacturing in the United States, Australia, New Zealand, South Africa, and Canada.

From these inductive studies, Douglas found that there seemed to be a close corroboration of the values of k and j obtained from the cross-section studies for the United States, Australia, and South Africa. However, there were the expected divergences in values between the United States, on one side, and New Zealand and Canada, on the other; and there were differences in values in different years in the same country.

But underneath all these differences, it is submitted that there has been "for the periods studied", a substantial core of stability within countries and that differences in technique, differences in the relative importance of given industries, and differences in the ratios of capital to labor may account for such deviations in the values of the exponents as exist.102

The results obtained from the difficult research were not completely satisfactory, however, in building up the law of productivity since some of the tests would not conform to the averages. The Massachusetts time-series which had unearthed the out-of-line value of k as .882 for the period 1890-1920 as previously reported was reinvestigated; the results were again negative. Moreover, the tests indicated that if the time periods were shortened by eliminating some terminal years, the results were considerably changed.

Lastly, when interspatial tests were attempted of individual states as separate observations, the results were again negative. The failure of these tests, along with others previously reported in this paper, would seem to question the validity of the Cobb-Douglas function for measuring the theory of marginal productivity. In many instances, the studies tended to show an almost exact agreement between the labor share of product expected according to the marginal productivity theory and the actual share of product obtained by labor; then, in contrast, several studies brought forth wide variances between the actual and theoretical labor share. Therefore, the question would seem to arise as to whether Douglas' theory was a limited, rather than a general one since it might need to utilize a particular type of data within a certain time period for it to produce affirmative results.

In order to strengthen the validity of the production function, Douglas analyzed the amount of deviation between the actual and theoretical products which had been obtained in the studies by computing the standard errors of estimate for each study. The analysis determined that: (a) in 2185 industry observations in American manufacturing for the period 1889-1919, 76.5 per cent of the cases were within one standard error estimate between the actual and

theoretical product, 96 per cent were within one and two standard errors of estimate, and only .0075 per cent were within more than three standard errors of estimate; 

(b) in 1373 industry observations of the British Dominions for specific years, 74.7 per cent of the cases were less than one standard error of estimate, and 94.7 were within one and two standard errors of estimate. These statistics strengthened the credence which could be placed in the production formula since the expected percentages for a normal distribution of observations were: 68.3, less than one standard error, 95.0, less than two standard errors, and 1.0, more than three standard errors. Moreover, Douglas observed that any wide differences between the actual and theoretical values of product could be traced to monopolistic practices, "sweating," expanding and contracting industries, and over-competition.

The final test of the reliability of the production formula was to compare the approximations between labor's actual share of the net value product and the theoretical estimates of this share. This comparison was made in Table XV from twenty cross-section studies of various years in the

105 Ibid., pp. 29-30.
107 Ibid., pp. 33-35.
Table XV

A Comparison by Years of the Values of the Exponent of Labor in the Production Function (k) with the Unweighted Average of the Shares of the Net Value Product Received by Labor (W/P) 108

<table>
<thead>
<tr>
<th>Economy</th>
<th>Years</th>
<th>k (theoretical)</th>
<th>W/P (actual)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>1889</td>
<td>.51</td>
<td>.60</td>
</tr>
<tr>
<td>&quot;</td>
<td>1899</td>
<td>.62</td>
<td>.58</td>
</tr>
<tr>
<td>&quot;</td>
<td>1904</td>
<td>.65</td>
<td>.64</td>
</tr>
<tr>
<td>&quot;</td>
<td>1909</td>
<td>.63</td>
<td>.63</td>
</tr>
<tr>
<td>&quot;</td>
<td>1914</td>
<td>.61</td>
<td>.59</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>.63</td>
<td>.605</td>
</tr>
<tr>
<td>Australia</td>
<td>1912</td>
<td>.52</td>
<td>.54</td>
</tr>
<tr>
<td>&quot;</td>
<td>1923-24</td>
<td>.53</td>
<td>.54</td>
</tr>
<tr>
<td>&quot;</td>
<td>1934-35</td>
<td>.59</td>
<td>.57</td>
</tr>
<tr>
<td>&quot;</td>
<td>1936-37</td>
<td>.64</td>
<td>.61</td>
</tr>
<tr>
<td>Victoria</td>
<td>1910-11</td>
<td>.49</td>
<td>.64</td>
</tr>
<tr>
<td>&quot;</td>
<td>1923-24</td>
<td>.59</td>
<td>.65</td>
</tr>
<tr>
<td>&quot;</td>
<td>1927-28</td>
<td>.59</td>
<td>.68</td>
</tr>
<tr>
<td>New South Wales</td>
<td>1933-34</td>
<td>.66</td>
<td>.66</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1938-39</td>
<td>.46</td>
<td>.57</td>
</tr>
<tr>
<td>Canada</td>
<td>1923</td>
<td>.48</td>
<td>.50</td>
</tr>
<tr>
<td>&quot;</td>
<td>1927</td>
<td>.48</td>
<td>.48</td>
</tr>
<tr>
<td>&quot;</td>
<td>1935</td>
<td>.50</td>
<td>.40</td>
</tr>
<tr>
<td>&quot;</td>
<td>1937</td>
<td>.43</td>
<td>.52</td>
</tr>
<tr>
<td>Average all Commonwealth and State Studies</td>
<td>.60</td>
<td>.58</td>
<td></td>
</tr>
<tr>
<td>Average Commonwealth Studies only</td>
<td>.55</td>
<td>.55</td>
<td></td>
</tr>
<tr>
<td>Average Canadian Studies</td>
<td>.47</td>
<td>.48</td>
<td></td>
</tr>
</tbody>
</table>

United States, Australia and its States, New Zealand, and Canada.

Table XV pointed out a striking degree of agreement between labor's theoretical and actual share of the product. In the United States studies, the average value of $k$, .63, was close to the actual share received by labor, $W/P = .605$. The British Dominions cross-section studies, moreover, were very close to agreement: Canada's average value of $k$ was .47, and of $W/P$, .49; the average values of the Commonwealth's studies only were exactly alike, .55; the average of all Commonwealth and State studies showed that $k$ was .60, and $W/P$ was .58. Thus, as Douglas stated: "That, taken in the large, there is an almost precise degree of agreement between the actual share received by labor and that which, according to the theory of marginal productivity, we would expect labor to obtain." 109

Before making a brief summation of Douglas' work in the field of wage theory, it should be noted that this paper has not included in its discussion the question of the probable supply curves of labor, capital, and natural resources which was part of The Theory of Wages. The reason for this omission is that the writer determined that the most satisfactory approach to this section would be to trace the development of the production formula through all of the

inductive studies since Senator Douglas himself considered this development as his major contribution to the theory of wages.

Therefore, in summation, it should be noted that after the Cobb-Douglas formula was derived in 1928 to test the marginal productivity theory, Douglas, with the assistance of many others, worked upon a considerable number of inductive studies concerning the relationship between the changes in the quantities of capital, labor, and product. The statistics derived from these studies showed a substantially close agreement between theoretical and actual values of the factors of production so that certain conclusions could be drawn: (1) a change of 1 per cent in the quantity of labor, with capital constant, brought forth a change in the opposite direction of from 1/3 to 1/4 of 1 per cent in the marginal productivity of labor; (2) the elasticity of the marginal productivity curve for labor in manufacturing would be between -3.0 and -4.0 since this curve was the relative percentage change in a factor which is required to effect a change of 1 per cent in the marginal productivity of the factor; (3) if the rate of wages is decreased by 1 per cent, there will be an increase of 3 to 4 per cent in the number of workers employed; if the rate of wages is increased by 1 per cent, there will be a decrease in the number of workers employed; (4) in the production formula, the
share of the value product received by a factor tends to approximate under pure competition its own exponent.

Concerning the results obtained in these studies, Douglas stated:

It is submitted that the results are, on the whole, corroborative. If they were purely accidental, as some have charged, they would show widely varying results. The fact that on the basis of fairly wide studies there is an appreciable degree of uniformity, ... fairly clearly suggests that there are laws of production which can be approximated by inductive studies and we are at least approaching them.\(^\text{110}\)

There can be no doubt that Douglas has contributed enormously to an understanding of the marginal productivity theory of wages by his inductive studies which have attempted to measure labor's share of productivity. However, in an analysis of his theory of wages, it is important to question the reality of the theory which maintained that the worker would be paid a wage equal to the value of the marginal addition which the worker applied to the product.

In order for the marginal productivity theory of wages to function perfectly, many assumptions must be made such as: a system of perfect competition, mobility of labor and capital, full employment, equal bargaining power between labor and management, and flexible prices. Douglas understood that many of these assumptions upon which the theory

was based were not completely valid in the economic system. Therefore, he modified the relative validity of the assumptions of marginal productivity in the following manner.

1. Largely valid but not wholly so.
   a. Knowledge by business men of relative productiveness of labor and capital.
   b. Mobility of capital.
   c. (Prior to the passage of the National Recovery Act.).
      Non-interference by the Government in terms of the wage contract.

2. Primarily valid but with a strong opposing tendency.
   a. Competition between laborers for work.
   b. Mobility of labor.
   c. Competition between employers for laborers.

3. Partially true but on the whole not true.
   a. All capital is employed.
   b. All labor is employed.
   c. Laborers know their productivity.
   d. The bargaining powers of labor and capital are equal.
   e. (Since the passage of the National Industrial Recovery Act.).
      Non-interference by the Government in terms of the wage contract.

Douglas did not believe that the credence of the theory was destroyed by the differences between the basic assumptions and the actual functioning of the economy since he felt that "the method of the marginal productivity school has described a portrait of reality." In his belief, wage rates which were less than marginal productivity would be

111 Douglas, Theory of Wages, p. 94.
112 Ibid, p. 95.
increased by business competition, and wages which were above the marginal product would be decreased by the competition of laborers for employment.

The forces upon which the productivity school built their theories are, therefore, not fictitious, but are instead powerful. To the extent that they are operative, the conclusions which are drawn from them are valid, and the results are modified but not vitiated by the presence of other forces which are at work as well. 113.

Although the marginal productivity theory of wages has formulated an approach to the problem of wage determination which has indicated the relationship between wages and productivity, the theory does not seem to describe Douglas' "portrait of reality". From the writer's limited experience as an employee of the Government and as an employer in the retail business and in the garment industry, marginal productivity has not been the deciding factor in determining wage rates. The Government operates in a non-competitive field in which it is, to a large degree, free from the intense rivalry of other business concerns. Cost is not a seemingly important factor in government operations; and the relation of the amount of employment in the government service to the labor cost involved is of minor importance. Thus, although outside competition has some effect upon the government's wage rates from the standpoint

113 Douglas, Theory of Wages, p. 95
of drawing workers into the service, the scale of wages paid by the government is not dependent upon the employees' marginal addition to productivity, but rather to an arbitrary determination of lawmakers. A similar refutation of the marginal productivity theory could be made in other non-competitive industries such as: public utilities, transportation, private nonprofit businesses; approximately one quarter of the American wage and salary workers are engaged in these completely monopolistic industries.

In contrast to the non-competitive industries above, the garment industry is one of the most highly competitive industries in the economy. Prior to the strong unionization movement in the United States, this cutthroat industry was one in which the worker was severely exploited as meager wages and "the sweat shop" were its characteristic features. Immigrants, women, and children made up a great part of the working force; and these workers received wages far beneath the average for the country. The mobility of the workers in this industry was limited, however, through ignorance and fear of starvation so that, contrary to the thesis of marginal productivity, they were unable to shift to higher wage pursuits. Thus, in the garment industry and other "sweated" industries of that period, the worker received a lower wage than the marginal share which he had added to productivity.
At mid-century, wages in the garment industry are determined through processes of collective bargaining rather than by marginal productivity. Since over ninety per cent of the workers in this industry are either members of the Amalgamated Clothing Union, a C.I.O. union in menswear manufacturing, or the International Ladies Garment Workers Union, an A.F. of L. affiliate, the wages of the workers can be set by negotiations between national employers' associations and the unions. Thus, the competitive labor market with its concomitant feature, individual bargaining, is eliminated, and wages are not a matter of debate between the individual employer and his workers. In the garment industry, as in other industries in which labor unions have great power, wages are not determined by the laborer's marginal addition to the net product, but rather by a bargain theory of wages in which a wage scale is formulated in accordance with the relative bargaining strength of labor and management. In line with this reasoning, Professor Dunlop has stated:

As a result of the growth of labor organizations, particularly in the past 15 years, the wage level of the country is very significantly determined by the processes of collective bargaining. It is unfair to estimate the influence of collective bargaining on the wage structure simply by referring to the number of wage earners organized. With collective bargaining so extensive, its influence on wage rates extends far beyond the particular wage bargains. Although it is commonly estimated that there are about 15 million organized
wage earners in the country, the main features of the wage structure of whole segments of our economy, like mining, manufacturing, transportation and communication, and construction are effectively set by collective bargaining -- sectors with almost 25 million wage and salary earners. 114.

In addition to monopoly, the immobility of labor, and collective bargaining, a final negative factor which tends to undermine marginal productivity as a general wage theory is unemployment. Although Douglas has admitted that the full employment of labor, one of the prerequisites of the theory, was just partially valid in the economy, he did not emphasize sufficiently how unemployment weakened the structure of the theory. According to the marginal productivity theory, unemployment could be cured by a reduction in the wage rates since idle workers indicated that the labor force was being paid a wage scale above its marginal productivity. However, the complexities of the unemployment issue could not be solved by merely reducing wages as Douglas had himself observed in both The Problem of Unemployment and Controlling Depressions since one unfortunate aspect of the capitalistic economy has been the "boom or bust" tendencies of the business cycle. During a depression, a reduction in the wage rates does not necessarily tend to increase

employment; rather, it may further cut the purchasing power of the wage earners and stagnate the economy. At this time, when millions of workers are idle, the supply of labor being greater than the demand for the factor will tend to bring forth competitive underbidding for jobs so that wages will fall below its marginal product.
In Paul Howard Douglas' life, the past reflects upon years in which the man was constantly struggling with problems: subjective problems relating to his own character, problems in respect to the political society, and, in the main, problems concerning the structure of the economy. This period of grappling with these issues ends for Douglas in 1948 upon his election to the United States Senate. For by that time, the man had solved certain inner conflicts and had formulated his ideas into a fixed pattern so that he was able to emerge upon the political scene as a giant in strength and in intellect.

The paucity of educational facilities in the Maine backwoods during his formative years did not dampen the intellectual keenness of the youth, Douglas, in any way. Rather, not unlike Lincoln in many respects, it developed within him both an understanding of the rudimentary problems of the common man and an aching thirst for knowledge. These attributes were the driving forces within the man which made him probe into the economic cancers of society in an attempt to solve the degrading afflictions of the workers.

Since this work is basically a discussion of
Douglas' economic endeavors, no attempt will be made to draw conclusions about his development in the past aside from that field. However, it is important to record that he was able to think through two of his most vexing problems, pacifism and radicalism, during this period. His pacifistic leanings in World War I which caused him so much inward concern for years after the struggle were obliterated upon the advent of the next struggle for survival. In this conflict having resolved that militaristic strength alone could overcome the evil forces of aggression, Douglas cast aside the tenets of pacifism to fight actively for the democratic cause. He emerged from the fray a wounded combat hero. Moreover, his radical political tendencies as portrayed in The Coming of a New Party in 1932 were mainly dissolved a few years later when he determined that a socialistic type of third party movement was not necessary since the Democratic Party under President Roosevelt was attempting to elevate the stature of the common man.

One of Douglas' most important contributions in the field of economics has been the methods of approach which he has taken in attempting to study problems. His major technique has been to develop a statistical record of the history of the problem and then, to simplify the trends of the issue in index numbers. In The Problem of Unemployment before grappling with theories for overcoming the economic illness, he, first, measured the amount of unemployment
in the United States for the period of 1890-1926 in order to illustrate the true extent of the seriousness of the problem. His work, *Real Wages in the United States, 1890-1926*, was a monumental task in which in order to measure the material progress of the workers during the years indicated in the title, he had to create a new cost of living index, compute the earnings of both the employed workers and the total labor force, measure the amount of unemployment, and thereby, index the movement of real wages of the workers. The extent of Douglas' statistical and inductive analysis on this project was so vast that it required approximately 3,000,000 computations in over a six-year period of research before this book could be published. In wage theory, once again, Douglas utilized an inductive, quasi-statistical, and scientific method to attempt to verify the Cobb-Douglas formula of production. Over twenty years of inductive research was spent in testing the theory of marginal productivity by means of the formula. Thus, Douglas was instrumental in organizing the fields of unemployment and wages in more definite terms by means of the scientific approach so that he and others could more accurately describe and understand the workings of these economic subjects.

However, Douglas was not satisfied with merely opening the doors of economic discovery so that other economists could have clear data for their theories. If there were a
problem, Douglas would attempt to solve it. The Great Depression commencing in 1929 exposed the weaknesses of the capitalistic economy in the downward phase of the business cycle; it illustrated all too vividly the insecurity of the worker. Douglas wasted little time in attacking the tremendous issues of depression and unemployment. His program for overcoming these economic ulcers was forthright and practical, not a nebulous maze of theory. Thus, he was a harbinger of the New Deal when he advocated a comprehensive program of unemployment insurance to both provide a minimum of security for the worker idle because of the disintegration of the economic system and to stimulate the parts of the economy by providing a new flow of purchasing power into its mechanism. Douglas' strength in fighting for unemployment insurance was one of the contributive forces in the adoption of the program which is now considered an integral phase of the American way of life.

Moreover, he was instrumental in the establishment of employment exchanges in the United States. In his writings, Douglas traced the history of the employment exchange system in Europe so that its merits in alleviating joblessness could be clearly understood in the United States. Both the federal and the state governments have long since accepted the practicability of utilizing employment exchanges as the central force in stepping up the mobility of
labor and in handling unemployment security.

Douglas was both practical and powerful in his attack upon depression. He was one of the prophets who advocated "pump-priming" to aid in unharnessing the wheels of the economic machine from its immobile condition. Government spending could be the most powerful factor in rifling purchasing power into the hands of the wage-earner who would proceed to buy the necessities of life and, thereby, stimulate the flow of production. Planned public works in times of crisis which he advocated has been adopted by the many planning commissions in this country as the most affirmative method of overcoming periods of economic stagnation.

Thus, the Douglas approach to the problems of depression and unemployment has become the accepted method of dealing with these economic blights. Both the "New Deal" and the Keynesian revolutions brought social security and "pump-priming" to the forefront as being the most satisfactory means of protecting the people from economic chaos and vibrating the wheels of production. Although Douglas advocated government spending in the downswing phase of the business cycle in his writings, he was not a potent factor in bringing that theory into practice during the Roosevelt administration. On the other hand, by his vigorous work in behalf of unemployment insurance on various state
unemployment commissions, he was one of the leading forces behind the ultimate adoption of this type of legislation in government.

In the study of wages, Douglas has attempted to clarify a most complex economic factor. In his herculean efforts to measure the condition of the workers, he has succeeded, where others have failed, by digging into the wage ground with both the statistical tools passed down to him and with newly created tools whenever the old ones disintegrated. His statistical and inductive methods of measuring the material progress of the American workers was a beacon for other economists who desired to interpret real wages.

It is difficult to evaluate Douglas' contribution in the field of wage theory since so many conflicting factors have emerged to attempt to invalidate his theories. The Cobb-Douglas function which he has relied upon to test marginal productivity has shown both positive and negative results. In many of his inductive projects, he has obtained a surprising degree of approximation between labor's theoretical and actual share of the product. Yet, in other studies, the above relationship has not been forthcoming. Although Douglas has attempted to explain the negative results as being part of the abnormal workings of the economy, these results have cast serious doubts about the validity
of the function as a general wage theory. Moreover, the number of inductive tests which have been made with this function are not of a sufficient amount to measure its true value in the field of wages. Also, as it has been explained in the text of this paper, in general, marginal productivity has appeared to have lost ground in the last two decades as the correct theory for wage determination; the rise of powerful trade unions has made collective bargaining the most potent factor in wage determination.

In many of his works, Douglas often quoted Lord Kelvin's dictum:

When you can measure what you are speaking about and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind.

That dictum reflects a perfect image of Paul Howard Douglas' major contributions in economics.
BIBLIOGRAPHY

A. Books


B. Periodicals


Commons, John R., "Unemployment Compensation and Prevention," Survey, 47:5-9, October 1, 1921.


C. Pamphlets


D. Official and Government Publications


E. Encyclopedia Articles


F. Newspapers


G. Interview


In addition to the formal bibliography listed above, the writer has perused every known book and article written by or about Paul H. Douglas.