1937

Agriculture in the national economy

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Boston University

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COLLEGE OF BUSINESS ADMINISTRATION

THESIS

AGRICULTURE IN THE NATIONAL ECONOMY

by

Francis Xavier Lang, LL.B
(Suffolk Law School 1930)

submitted in partial fulfillment of the requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION

1937
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"A CREATIVE ECONOMY IS THE FUEL OF MAGNIFICENCE"

Emerson.
FOREWORD

Government, as well as applied economics, is not an "a priori" science. An analysis of the results of legislative and economic experimentation afford ample illustration of the impossibility of moulding the life of the people to a predetermined economic pattern.

But man, having been able to harness the forces of nature, has never despaired of being able to plan and direct our intricate economic organization. The challenge of "scarcity" in nature having been successfully answered by scientific advancement, the next task to which we must address ourselves is to solve the problem of man-made "scarcity", that is, scarcity due to inherent defects in our national system caused by failure to properly co-ordinate all the units in this system.

In this business of providing and getting a living from a national point of view, the freedom of action made possible by our form of government has not worked out best from the point of national economic efficiency. But compared with the conjectural benefits
of the rigid planned economy of Russia, Germany, or Italy, Americans would rather muddle along as they are than submit to any form of regimentation.

It is the duty, nevertheless, of government, while respecting these democratic ideals, to initiate in a broad way a measure of control over economic activity, so as to achieve a higher standard of living for all.

This thesis attempts to project upon a screen of economic development the picture which agriculture has played and is playing in the national arrangement.

Agriculture has experienced a transition from the eighteenth century, when it was the economy, to the present day, when it is a cog, although an important one, in an economy where the dominant characteristics are industrial and financial control.

The broad controls in the form of tariffs, taxation, and other legislation are discussed, bearing in mind their relation to and reaction upon agriculture. Finally is treated the significant role which the farmer as a consumer could play in any planned arrangement for a broader diffusion of the national income so that a higher standard of living for all might be attained. The farmer, once called the back bone of the nation, might henceforth be the spinal column of a planned economy. In the light of present day objectives, Emerson's words take on a prophetic ring.
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<td>XXIX .......</td>
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</table>
AGRICULTURE IN THE NATIONAL ECONOMY

PART I

THE NATIONAL ECONOMY
WILLIAM JAMES

MIND AND EMOTION
CHAPTER I

GROWTH AND DEVELOPMENT OF A NATIONAL ECONOMY

Its Evolution.

In the beginning, and for countless centuries after, our ancestors maintained a precarious physical existence by the pursuits of hunting and fishing. When food became scarce in their particular section, they rolled up their few crude possessions and moved on to some virgin territory where wild game was abundant and where the waters abounded with plentiful supplies of fish.

It is wholly conjectural as to what motives prompted prehistoric man to change from his wild roving life with its uncertain and irregular food supply to that of a domesticated tiller of the soil whose rich bounty enabled him to obtain plentiful harvests and to lead a regular existence. Whatever may have been their motivation, those first agriculturists with their crude plows and their primitive harrows laid the foundations of a procedure which we now recognize as a National Economy.

At first this economy must, of necessity, have been communal in scope, for primitive society's virtual existence depended on the close-knit cooperation of each member of the village or tribe. Those tribes or settlements which digressed from the practice of these imperative principles soon began to suffer from a scarcity of food, or weakened
by internal dissension became easy prey to predatory neighbors who robbed them of their possessions and then either exterminated them or permitted them to live in a state of bondage.

Centuries of adherence to methods based on the law of self-preservation finally made a virtue of necessity, and we find records of the first beginnings of agrarianism. For instance, "the Hebrew government was founded on an equal agrarian law". The equalization of land holdings was recognized by the ancient Hebrews as to the basis of an intelligently planned national economy, which would make ultimately for the well-being of their people. Mostly all the early nations of the world owed their existence to a vigorous, productive peasantry. The then world being overwhelmingly agricultural in scope, governments saw to it that the farming classes were allotted liberal tracts of good land, without the crushing burdens of heavy personal tribute to some potentate, or onerous taxation that might have destroyed their initiative and willingness to produce abundantly. Even in the Middle Ages, when the system of serfdom became the vogue, the individual peasant farmer, although beholden to his liege lord in the event of war, enjoyed ordinarily the fruits of his labor, which enabled him and his family to live in comparative comfort and happiness.

Previous to the year 1800 -- the beginning of the industrial revolution -- the inhabitants of this country had enjoyed an uninterrupted agricultural life for one hundred and eighty years. Circumstances over which the people had no

control had compelled them to become complete productive units in their respective communities. Roads were poor and in many places impassable. Vehicular travel was exceedingly slow. The carrying of the mails as we know them today was inconceivable, the sending or receiving of a letter taking many days or weeks. Ship travel to Europe was interminably slow, sailing vessels taking weeks or months to traverse the oceans.

Confronted by these foregoing obstacles which inhibited the normal trade in goods as we know it today, each farming center became a complete self-producing and self-supporting entity. With the help of slave labor which was free and abundant, the average farm was a teeming hive of industry, producing food, clothing and commodities in such quantities that there was a sufficiency for each family.

Up to this period (1800), agriculture had maintained a position of supreme importance in the life of the people. These were the halcyon days of handcraft occupations. In 1655, each Massachusetts household was required to spin a specific quantity of yarn each year. The various farming communities were gradually developing small industries, i.e., brewing, paper-making, soap and candle making, cordage, twine and sail cloth. Other important occupations were the preparation of fish, rice, tobacco, and meat.

The document contains continuous text without visible headings, subheadings, or formatting. The content appears to be a standard paragraph of prose, possibly discussing a topic of academic or professional interest. The text is dense and extends across the page, indicating a thorough treatment of the subject matter. Due to the nature of the document, specific details or context cannot be accurately transcribed without further information.
As the eighteenth century neared its close the United States of America, recently come into being, proclaimed the doctrine of equality of opportunity and eventually incorporated this principle in the Federal Constitution.¹ Thousands of hardy pioneers began to look westward to a virgin country where land was cheap and the opportunities for developing a good future were unlimited.

In 1790 the area of our country was 892,135 square miles, and the population consisted of 3,929,214 men, women and children.² Hand labor was the typical method by which the domestic economy provided the sustenance for its people. The republic was now at the crossroads between the old order and the new. The industrial revolution which was to introduce machines driven by automatic power and which was to multiply the productiveness of hand labor a hundredfold was close at hand. We were on the threshold of an era in which non-restrictive immigration, the beginnings of the machine age, and the dawn of widespread agricultural activities would create the necessity for a national economy in which the various elements would amalgamate in order to promote the well-being of the republic.

Definition of a National Economy

In order to trace the rise and development of our National Economy, it is essential that its meaning be defined.

1. United States Constitution. Articles XV and XIX
Broadly speaking, every phase of activity by which a sovereign people, whether from agriculture, or from manufacturing, or from its mines or other natural resources, or from the products of the seas and oceans, create the wherewithal to provide each and everyone with an abundance of food, a sufficiency of clothing, and an adequate amount of shelter, and co-ordinating these various elements in order that the maximum benefits might be proportionately distributed, may be defined as a National Economy.

During the early years of the eighteenth century the colonists turned to the virgin forests and teeming rivers and lakes for their meats, furs, fish and lumber supplies. But their yearning for a stabilized existence forced their thoughts inexorably to the development of the soil. Land was free, subsistence was cheap, and large families were an indispensable asset in the building-up of communities and in the creation of wealth.

The force of circumstances -- both natural and artificial -- stimulated the creation of native industries. As the colonists acquired a surplus of essential domestic products, they began to export them to various parts of the world and in return imported silks, spices, rum, rare woods, and many other luxuries. Efficient craftsmen were needed to convert these raw materials into merchandise. This did not meet with the approval of the mother country. England's objective was to regard the colonies simply as a source of raw materials and looked with disfavor upon the founding
of infant industries in the new land. As a consequence, in 1750, there was an absolute prohibition of iron manufactures, and England forbid the emigration of skilled artisans from her shores, and proscribed the exportation of English machinery, tools and raw materials.¹

As the population increased with exceptional rapidity there arose a great demand for diversified products which the older system of hand production could not supply. (In 1800, the population had expanded to 5,308,483, or an increase of 35 per cent.)² It is significant that this increase in population is coincident with the advent of the industrial revolution in the United States, for without the introduction of steam power the new economy as exemplified by the factory system would have been impossible.

Heretofore goods were manufactured for home consumption only, or as the limited needs of the individual communities indicated. The work being done at home, the hours were irregular and the workers were usually paid by the number of pieces produced.

With the coming of power-driven machinery and the power-house, it became economically imperative for individual manufacturing trades to collect the workers under one roof, where they were subject to prescribed discipline and regular hours of employment. This involved a new economy

² World Almanac, 1935, p.244.
and an entirely different system of production. Fixed overhead, or the expense of operating a factory, necessitated the planning of a manufacturing program with a daily output of goods, the profits from which would more than absorb the irreducible charges. The daily operating schedule was based on forecasts of how much goods could be sold in the subsequent 12 months. This new concept of planned economy in contradistinction to the former domestic procedure was the basis of the new factory system.

As the republic grew in area and the inhabitants steadily penetrated and settled in the newer sections, industry followed in their wake, with the result that manufacturing plants in ever-increasing numbers were erected in numerous strategic centers. Whether in the East, or in other acquired areas, a general exodus from rural to urban sections was an inevitable consequence. The following table shows the trend of population from farms to cities from 1790 to 1850.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Population</th>
<th>Population of Places of 8,000 Inhabitants or more</th>
<th>Number of Places</th>
<th>Per cent of Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1790</td>
<td>3,929,214</td>
<td>131,472</td>
<td>6</td>
<td>3.3</td>
</tr>
<tr>
<td>1800</td>
<td>5,308,483</td>
<td>210,873</td>
<td>6</td>
<td>4.0</td>
</tr>
<tr>
<td>1810</td>
<td>7,239,881</td>
<td>356,920</td>
<td>11</td>
<td>4.9</td>
</tr>
<tr>
<td>1820</td>
<td>9,638,453</td>
<td>475,135</td>
<td>13</td>
<td>4.9</td>
</tr>
<tr>
<td>1830</td>
<td>12,866,020</td>
<td>864,509</td>
<td>26</td>
<td>6.7</td>
</tr>
<tr>
<td>1840</td>
<td>17,069,453</td>
<td>1,453,994</td>
<td>44</td>
<td>8.5</td>
</tr>
<tr>
<td>1850</td>
<td>23,191,876</td>
<td>2,897,586</td>
<td>85</td>
<td>12.5</td>
</tr>
</tbody>
</table>

In the year 1800 there was only six cities which had a population of 6,000 or over. A half century later this number had jumped to 85, or 12.5 of the country's inhabitants. This tendency to concentrate in large urban centers continued without abatement throughout the nineteenth and twentieth centuries until the year 1930, when the records show 1208 cities with 6,000 or more inhabitants, or 49.2 per cent of the total population. ¹

The progress of transportation is so closely connected with our national economy that its beginnings and gradual evolution are synchronous with the expansion of industry as a whole. This period can be divided into three distinct stages: The "turnpike" period from 1790 to 1815; the era of steamboat travel from 1807 to 1850; the development and unification of our network of railroads from 1850 until the present.

Among the earliest roads used by settlers in their penetration of new country were the "Cumberland Road", the "National Pike", the "Santa Fe Trail", and the "National Old Trails Road" built by the United States Government. The early turnpikes were toll roads confined usually to centers of population and were inter-community projects. They were constructed of soft dirt or broken stone, and were financed by private capital through charters allowing the collection of tolls. ²

Some of these turnpikes, like the Old York road from Philadelphia towards New York, the Baltimore and Lancaster pikes outside of Philadelphia, remained until the close of the nineteenth century, but the majority of them were abandoned by 1850 because they were supplanted by the superior economy of steam railroads.\(^1\)

The earliest form of water transportation was by means of flatboats. Soon after Robert Fulton proved the feasibility of steam navigation, steamboats began to appear on the larger rivers of the country, and the river ports on the Mississippi, the Ohio, and the Missouri expanded greatly because of the resultant commercial traffic.

In 1815 approximately 80 per cent of the 8,350,000 persons in the country still lived in the states adjacent to the Atlantic Ocean. Tennessee, Ohio and Kentucky were sparsely settled, and pioneers were gradually seeping into the great Mississippi Valley. The war of 1812 and the Tariff of 1816, which imposed a duty of 25 per cent on imports of cotton and woolen goods, had given an impetus to domestic manufactures. Forces had been set in motion effecting a future economic progress that would require transportation facilities far better than any yet existent.\(^2\)

The East had experienced a flood of foreign immigration which had greatly increased the population of its industrial centers and they were in urgent need of the food

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supplies which the great land areas of the West could furnish. On the other hand, the western farm areas and the southern states, with their expanding cotton-growing industry, were in need of machinery, iron products and textiles which were being manufactured in the Atlantic states. The one element which could consolidate these two powerfully beneficial forces was a quicker and cheaper form of transportation.

On September 27, 1825, a great historical event occurred in England, destined to have a tremendous effect on the national economy of the United States. The first public passenger train in the world, drawn by George Stephenson’s newly invented locomotive, "The Active", ran successfully on the Stockton and Darlington Railway.¹

Two years later, in 1827, the Mauch Chunk railroad, nine miles long, was built in Pennsylvania and used in the transportation of anthracite. The Mohawk and Hudson Railroad began operations between Schenectady and Albany on August 10, 1831, and from the beginning carried approximately 300 passengers per day. On July 4, 1828, the Baltimore and Ohio Railroad began construction on the first railway in the United States which was designed to carry both passengers and freight.²

In Charleston, South Carolina, tracks had been laid

in 1839 and work continued until 1833, completing the line to Hamburg, South Carolina, a distance of 135 miles, considered at that time the longest railroad in the world. By 1842 there was a regular freight and passenger service between Boston and Albany. By the year 1840 the total length of line in the United States was 2799 miles. Of this total, 1566 miles south or east of the Mississippi River, 517 miles in New England and 80 miles in the North Central States. The great sections west of the Mississippi were to be without a single mile of railroad for the next ten years.¹

The following table shows the growth in railway mileage from 1840 until 1927.²

<table>
<thead>
<tr>
<th>South and Middle East of Mississippi River</th>
<th>Total Length of Line at End of Each Decade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>New England</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>1840</td>
<td>517</td>
</tr>
<tr>
<td>1850</td>
<td>2,507</td>
</tr>
<tr>
<td>1860</td>
<td>3,660</td>
</tr>
<tr>
<td>1870</td>
<td>4,494</td>
</tr>
<tr>
<td>1880</td>
<td>5,937</td>
</tr>
<tr>
<td>1890</td>
<td>6,718</td>
</tr>
<tr>
<td>1900</td>
<td>7,521</td>
</tr>
<tr>
<td>1910</td>
<td>7,922</td>
</tr>
<tr>
<td>1920</td>
<td>7,941</td>
</tr>
<tr>
<td>1927</td>
<td>7,636</td>
</tr>
</tbody>
</table>

That the one positive factor had at last arrived which would merge all of the various elements of the growing republic into a network of reciprocal parts is demonstrated by the fact that this form of transportation has never stopped expanding from its very inception. Even from the beginning its utilization was quickly consummated, thereby encouraging continuous expansion. By 1860 the sum of $1,250,000,000 had already been invested in railroads, with a total length of line of 30,283 miles.\(^1\) Thirteen railroad systems in 1865 had already carried 2,162,738,388 ton-miles of freight. By 1880 the total had increased to 14,480,667,609 ton-miles.

Construction of a transcontinental railroad line was started in 1864. The Central Pacific started its end from San Francisco. The Union Pacific began its section from Omaha on the Missouri River and worked its line westward. In 1869 the two ends were joined making a line 1848 miles long.\(^2\)

West of the Mississippi the growth of railway lines kept pace with the extraordinary demands. In 1850 there was none; in 1860, there was laid 1840 miles of rails. In a decade this had increased to 12,191 miles; by 1880 it had almost tripled, i.e., \(31,435\) miles. The year 1927 saw a total of 121,673 miles of line, making a continuous network by which the various elements of production and distribution of the great West from the Canadian border to the Gulf of Mexico were efficiently coordinated.

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Within forty years the railroads had proved their essential need to such an extent that they had penetrated into every phase of the national economy.

The following table shows the average railroad service per capita in passenger miles and freight ton-miles.

**TABLE III**

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Passenger Miles</th>
<th>Freight Ton-Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1830</td>
<td>50,262,332</td>
<td>114</td>
<td>644</td>
</tr>
<tr>
<td>1835</td>
<td>56,658,347</td>
<td>153</td>
<td>869</td>
</tr>
<tr>
<td>1890</td>
<td>63,056,438</td>
<td>190</td>
<td>1,256</td>
</tr>
<tr>
<td>1895</td>
<td>69,579,868</td>
<td>175</td>
<td>1,165</td>
</tr>
<tr>
<td>1900</td>
<td>76,129,408</td>
<td>211</td>
<td>1,860</td>
</tr>
<tr>
<td>1905</td>
<td>84,219,378</td>
<td>233</td>
<td>2,214</td>
</tr>
<tr>
<td>1910</td>
<td>92,267,080</td>
<td>350</td>
<td>2,764</td>
</tr>
<tr>
<td>1915</td>
<td>99,342,625</td>
<td>327</td>
<td>2,790</td>
</tr>
<tr>
<td>1920</td>
<td>106,421,621</td>
<td>415</td>
<td>3,837</td>
</tr>
<tr>
<td>1925</td>
<td>115,373,094</td>
<td>313</td>
<td>3,618</td>
</tr>
<tr>
<td>1927</td>
<td>118,628,000</td>
<td>285</td>
<td>3,642</td>
</tr>
</tbody>
</table>

Our commerce, while slow in developing, continued to make steady progress from the start. In 1793 the total of our foreign trade was $57,000,000. By 1807 it had increased to $247,000,000. When the first strictly high protective tariff was enacted in 1816, it was the beginning of a definite policy to which we were committed - with occasional ex-

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The table provides a summary of the experimental results. The data in the table indicates the following:

<table>
<thead>
<tr>
<th>Experiment</th>
<th>Condition</th>
<th>Outcome</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Test 1</td>
<td>Success</td>
<td>Detailed analysis required.</td>
</tr>
<tr>
<td>B</td>
<td>Test 2</td>
<td>Failure</td>
<td>Further investigation needed.</td>
</tr>
</tbody>
</table>

The table is essential for understanding the implications of the experiments and guiding future research.
ceptions - for the next hundred years. In 1824 the rates were raised and four years later they were made still higher. For the next two decades, domestic trade experienced an exceptional expansion. By 1848 it showed a total of $2,550,000,000; interstate commerce, $500,000,000, and our foreign trade $150,000,000. With the exception of the few depressions, from which the country always emerged stronger than ever, progress was consistently maintained.

Vast grants of public lands in the West and Southwest encouraged the settling of regions which had heretofore been devoid of habitation. Justin Smith Morrill, Republican Senator from Vermont, introduced a bill which was known as the "Land Grant Act." It became a law on July 2, 1862. Its specific provisions provided for the foundation and maintenance of colleges "where the leading object shall be, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts... in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life". In 1890 Morrill introduced in the Senate the "second Morrill Act" under which $25,000 is given annually by the Federal Government to each of the "land-grant" colleges. The effect of this act upon the children of the

great masses of our people, who otherwise might have been deprived of educational advancement, has been incalculable.

Industry and education, fused in the blood stream of a healthy, vigorous people, exploited the natural resources of the country to the full, producing wealth that totaled into the billions. With the close interlacing of railroads and the wonderful development of state and national highways, the products of any section can be brought quickly to other parts of the country, thereby promoting a healthy interchange of commerce.

In 1929 retail trade in the United States amounted to $49,114,653,000. In the same year our foreign trade was $5,240,995,000 for exports and $4,399,361,000 for imports. By 1932, the export value had declined to $1,611,016,000, and the imports to $1,322,744,000. In 1934 exports of merchandise had again risen to $2,133,366,000 and imports to $1,655,049,000, making a favorable trade balance of $478,317,000.

With the development of electrical power came the era of mass production and the demand for labor-saving machinery. The turn of the century began an epoch which present-day historians have already named the Machine Age. Practically every industry, including agriculture, has stepped up production to the point that a surfeit of goods has paralyzed the sys-

tem of distribution. As long as demand kept pace with production, a reasonable balance was maintained, but the low purchasing power of the masses could not absorb the constantly piling up surpluses. The natural result was the closing of thousands of factories, with widespread unemployment. In the meantime a demand arose for machines that would function with the minimum of human labor. This has been achieved to such extent that present-day labor-saving machinery is really labor-displacing machinery, and the resultant human idleness is known as "technological unemployment". At present there are over ten million men who cannot be reabsorbed into industry unless new industries are created. The other alternatives are keeping men permanently on relief rolls, or reducing the working week, by law, to thirty hours or less. Under our present system of producing for profit, these makeshift remedies are piling up stupendous government deficits and creating a parasitic class which may in time become unemployable.

Organized unionism, with its fountain head the American Federation of Labor, has a membership of approximately 4,000,000, and exercises a tremendous influence on the labor movement of the United States.

In the early years of the republic, when industry began to concentrate in the large centers, long hours, 12 and 14-hour days were common, and small wages caused desperate discontent.
Desultory organization in the form of guilds or crafts was attempted, but in the main they were unsuccessful. In 1869 the Knights of Labor was founded and grew slowly until the year 1886 when it had achieved a membership of 1,000,000. Its inherent weakness was its attempt to combine unionism with cooperative schemes, political maneuverings and attempts to dictate the fiscal policy of the government. Its final doom was sealed by the growth of craft unionism which seemed better adapted to the American labor movement than one vast association consisting of individual tradesmen.

In 1886 the American Federation of Labor was organized by Samuel Gompers and his associates. Its rugged strength lay in the recognition that skilled and unskilled trades should be segregated into separate organizations, abandonment of any attempts to obtain reforms by means of a political party, the formulation of attainable objectives, and the use of the strike as a final weapon to achieve their aims. Among the victories and reforms which the Federation has achieved during the past half century have been a nationally observed eight-hour day; the forty-hour week, and a vast improvement in factory hygiene. Indirect political pressure has enabled the Federation to help raise wages on public works, and the repeal of unfriendly laws, and organize determined drives on injunction legislation.

Exclusive of the Federation, there are strong organizations such as the Railroad Brotherhoods, the Amalgamated Clothing
Workers of America, and the Industrial Workers of the World.  

The following table shows the growth of the American Federation of Labor from 1897 to 1927.  

**TABLE IV.**

<table>
<thead>
<tr>
<th>Year</th>
<th>Membership</th>
<th>Year</th>
<th>Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td>1897</td>
<td>447,000</td>
<td>1913</td>
<td>2,753,400</td>
</tr>
<tr>
<td>1898</td>
<td>500,700</td>
<td>1914</td>
<td>2,716,900</td>
</tr>
<tr>
<td>1899</td>
<td>611,000</td>
<td>1915</td>
<td>2,607,700</td>
</tr>
<tr>
<td>1900</td>
<td>563,500</td>
<td>1916</td>
<td>2,803,000</td>
</tr>
<tr>
<td>1901</td>
<td>1,124,700</td>
<td>1917</td>
<td>3,104,600</td>
</tr>
<tr>
<td>1902</td>
<td>1,375,900</td>
<td>1918</td>
<td>3,508,400</td>
</tr>
<tr>
<td>1903</td>
<td>1,913,900</td>
<td>1919</td>
<td>4,169,100</td>
</tr>
<tr>
<td>1904</td>
<td>2,072,700</td>
<td>1920</td>
<td>5,110,800</td>
</tr>
<tr>
<td>1905</td>
<td>2,022,300</td>
<td>1921</td>
<td>4,815,000</td>
</tr>
<tr>
<td>1906</td>
<td>1,958,700</td>
<td>1922</td>
<td>4,059,400</td>
</tr>
<tr>
<td>1907</td>
<td>2,122,600</td>
<td>1923</td>
<td>3,747,200</td>
</tr>
<tr>
<td>1908</td>
<td>2,130,600</td>
<td>1924</td>
<td>3,746,600</td>
</tr>
<tr>
<td>1909</td>
<td>2,047,400</td>
<td>1925</td>
<td>3,817,900</td>
</tr>
<tr>
<td>1910</td>
<td>2,184,200</td>
<td>1926</td>
<td>3,900,500</td>
</tr>
<tr>
<td>1911</td>
<td>2,382,800</td>
<td>1927</td>
<td>3,903,800</td>
</tr>
<tr>
<td>1912</td>
<td>2,483,500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In 1782, Gouverneur Morris, who was at that time Assistant Superintendent of Finance, prepared an informative report on the coinage, in which he suggested the use of the decimal system and the introduction of the terms dollar and cent. With the exception of some slight modifications made later by Thomas Jefferson, the plan devised by Morris constitutes the

2. Ibid.
The table below shows the data collected from the experiments. Each column represents a different variable, and the rows correspond to different conditions or test groups. The values in the table indicate the measured outcomes or results for each condition. The table is organized to allow for easy comparison and analysis of the data across different variables and conditions.

- **Variable 1**
- **Variable 2**
- **Variable 3**
- **Variable 4**

<table>
<thead>
<tr>
<th>Condition 1</th>
<th>Condition 2</th>
<th>Condition 3</th>
<th>Condition 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value 1</td>
<td>Value 2</td>
<td>Value 3</td>
<td>Value 4</td>
</tr>
<tr>
<td>Value 5</td>
<td>Value 6</td>
<td>Value 7</td>
<td>Value 8</td>
</tr>
<tr>
<td>Value 9</td>
<td>Value 10</td>
<td>Value 11</td>
<td>Value 12</td>
</tr>
<tr>
<td>Value 13</td>
<td>Value 14</td>
<td>Value 15</td>
<td>Value 16</td>
</tr>
</tbody>
</table>

For a more detailed analysis, please refer to the experimental methods section for descriptions of the conditions and the rationale behind the variables chosen.
basis of the American coinage system. In 1787 the dollar was introduced as the unit in the United States, and since that time it has been the standard of value in either gold or silver.

A system of money exchange began within our borders in 1791, but its development was extremely slow. Inclusive of the year 1820, the total amount of money coined in the United States was approximately $19,000,000, about two dollars per inhabitant.

Between the years 1829 and 1860 there was a remarkable growth in the number of banks, they having practically tripled in number. The same proportional growth was maintained in capital, loans and circulation specie as indicated by the following table.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Banks</th>
<th>Capital</th>
<th>Loans</th>
<th>Circulation</th>
<th>Specie</th>
</tr>
</thead>
<tbody>
<tr>
<td>1829</td>
<td>329</td>
<td>110.2</td>
<td>137.0</td>
<td>48.2</td>
<td>14.9</td>
</tr>
<tr>
<td>1860</td>
<td>1,563</td>
<td>429.9</td>
<td>691.9</td>
<td>207.1</td>
<td>83.6</td>
</tr>
</tbody>
</table>

One of the major problems confronting Alexander Hamilton when he became the first Secretary of the Treasury in 1789, was the condition of the national debt and the development of a plan leading to its settlement. In 1790, the foreign debt contracted during the Revolution, and mostly all of French origin, amounted to $11,710,000. The domestic debt consisted of $27,383,000 in principal, and $13,030,000 of accrued interest.

Unexpected demands on the government exchequer during the next decade increased the debt so that by 1801 it stood at $83,000,000. By 1812 it had been reduced to $45,200,000, but the War of 1812 raised it again to a new high of $127,334,000. Twenty years later, the entire debt had not only been paid, but there appeared a surplus in the Treasury. The expenses of the Mexican War again drained the Treasury and created a net indebtedness of $49,000,000.

At the beginning of the Civil War, the national debt had risen to $74,985,000. Stupendous expenditures during the next four years raised the amount to a staggering total. At the end of the war on Sept. 1, 1865, Secretary of the Treasury, Salmon P. Chase, announced the public debt stood at $2,758,000,000. Again there was another period of recession in the public debt. By 1879, it had been reduced to $891,000,000. There was another increase by 1913, when the debt stood at $1,028,600,000.
The World War shot the national debt up to unbelievable peaks. On June 30, 1919 the grand total stood at $25,482,034,000. The government's amortization plan reduced this huge amount considerably each following year, until by June 30, 1928, the national debt had been lowered to $17,526,219,000. Beginning with 1929, the depression made severe demands on the Treasury. Billions of dollars were expended on various forms of relief, forcing up the public debt to unheard of levels. On June 30, 1935 the public debt had reached the unprecedented total of $28,700,892,624, a per capita of $225.71. The following table gives the foregoing figures in their chronological order.

**TABLE VI**

<table>
<thead>
<tr>
<th>Year</th>
<th>Gross Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>1790</td>
<td>52,123,000</td>
</tr>
<tr>
<td>1801</td>
<td>83,000,000</td>
</tr>
<tr>
<td>1812</td>
<td>45,200,000</td>
</tr>
<tr>
<td>1816</td>
<td>127,334,000</td>
</tr>
<tr>
<td>1846</td>
<td>49,000,000</td>
</tr>
<tr>
<td>1861</td>
<td>74,985,000</td>
</tr>
<tr>
<td>1865</td>
<td>2,758,000,000</td>
</tr>
<tr>
<td>1879</td>
<td>1,996,000,000</td>
</tr>
<tr>
<td>1890</td>
<td>891,000,000</td>
</tr>
<tr>
<td>1913</td>
<td>1,028,600,000</td>
</tr>
<tr>
<td>1919</td>
<td>25,482,034,000</td>
</tr>
<tr>
<td>1928</td>
<td>17,526,219,000</td>
</tr>
<tr>
<td>1935</td>
<td>28,700,892,624</td>
</tr>
</tbody>
</table>

2. Ibid.
Its Over-all Growth.

The national wealth in 1790 had been estimated to have been $620,000,000, assigning $479,000,000 to lands and $141,000,000 to buildings and improvements. In 1850 it had reached $7,135,780,228, and in 1922 the stupendous total of $320,804,000,000.1 From 1790 to 1922 the wealth of the United States had increased three hundredfold, making this nation the wealthiest in the world. The national income in 1929 was $83,000,000,000, with a per capita of $663. In 1934 it had shrunk to $47,000,000,000, with a per capita of $377. In 1929 the national wealth had reached the zenith figure of $627,000,000,000, exceeding the combined total of seven of the principal nations of the world. However, the panic and the subsequent depression have caused a shrinkage of more than half, with the total at present about what it was in 1922.2 The following table shows the comparative record of this country with seven others:

---

<table>
<thead>
<tr>
<th>Country</th>
<th>1929</th>
<th>1922</th>
<th>1912</th>
<th>1890</th>
<th>1870</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>627.6</td>
<td>320.8</td>
<td>186.2</td>
<td>65.0</td>
<td>30.0</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>90.2</td>
<td>88.8</td>
<td>79.2</td>
<td>53.3</td>
<td>40.0</td>
</tr>
<tr>
<td>France</td>
<td>75.0</td>
<td>67.7</td>
<td>57.0</td>
<td>43.7</td>
<td>33.0</td>
</tr>
<tr>
<td>Germany</td>
<td>70.0</td>
<td>35.7</td>
<td>77.7</td>
<td>49.5</td>
<td>38.0</td>
</tr>
<tr>
<td>Italy</td>
<td>35.8</td>
<td>25.9</td>
<td>23.0</td>
<td>9.7</td>
<td>7.3</td>
</tr>
<tr>
<td>Spain</td>
<td>42.1</td>
<td>29.3</td>
<td>-</td>
<td>11.1</td>
<td>10.5</td>
</tr>
<tr>
<td>Russia</td>
<td>50.0</td>
<td>-</td>
<td>56.1</td>
<td>28.2</td>
<td>13.6</td>
</tr>
<tr>
<td>Canada</td>
<td>27.7</td>
<td>22.0</td>
<td>10.9</td>
<td>4.7</td>
<td>2.8</td>
</tr>
</tbody>
</table>

**Its Changing Nature.**

Our present-day national economy is so closely knit together, that it is no exaggeration to state that a disarrangement or injury to one of its elements would seriously impede the mechanism of the entire organism. Yet it is barely three-quarters of a century ago that the present-day national economy was practically non-existent. The factors which made this type of economy possible and which laid the foundation for the accumulation of vast national wealth, were a series of basic inventions.

CHAPTER II

THE POSITION OF AGRICULTURE IN THE ECONOMY

Agriculture's Relative Position.

Digressing a moment from the main theme, it is acknowledged that probably the most important of man's achievements was the invention-discovery of the function of the seeds of plants. This profound discovery helped to change man from a wandering, irresponsible individual to a steady and useful agriculturist, for he no longer was dependent on the vagaries or accidental discoveries of the sources of his food supply. Though the earth demanded his last measure of sweat and toil, it gave him in return a plentiful supply of food uninterruptedly (except in times of drought).

Man would probably still be a hewer of wood and a drawer of water, a heavy handed peasant-farmer whose labors are on the level with the beasts in the fields, were it not for the discovery of coal as a fuel and the resulting invention of a practicable steam engine. Whether on the surface of the earth, in the mines way below the surface, or on the seas, man was forever emancipated from the terrible drudgery of long hours and nerve-wracking toil. The steam engine in its remarkable adaptation to hundreds of mechanical uses stepped up man's creative and productive powers to the point where he could produce vast surpluses of goods, thereby increasing his own possessions and adding to the wealth of the nation. Mechanical power automatically aided man's cultural development by reducing his hours of labor from
"sunup to sundown" to approximately eight hours a day or less.

The perfection of the blast furnace, the Bessemer converter, and the modern rolling mill laid the foundation of the enormous steel industry with its ramifications that enter into the warp and woof of our national economy.

Next on the list of inventions which profoundly affected our national economy is electricity. Whether as light, or heat, or as power, it has been a potent force of inestimable value in the industrial development of the United States. As various industries adapted electricity to their manufacturing processes, it enabled them to better the quality of their goods, it increased their productiveness manyfold, and it enabled them to reach the masses of people because reduced costs permitted them to sell their merchandise at considerably lower prices.

The development of the internal combustion engine and its adaptation to automobiles, motorboats, and aircraft laid the foundation for the establishment of huge industries that employ millions of workers. To this list can be added the telephone, the telegraph, radio, motion pictures, and cement mixing, the latter making possible the building of huge dams, hydro-electric projects, the laying of foundations for bridges and many other similar uses.1

In the field of agriculture, the internal combustion engine practically supplanted the former use of steam and its auxiliary appliances. This modern engine now supplies

power for ploughing, cultivating and harvesting and does it far more efficiently and at a considerable reduction in costs. The combination of tractor and internal combustion engine permits the farmer to engage in deep ploughing and subsoiling, work that heretofore had to be performed by steam tackle or by horses, an expensive and laborious process which was looked upon with aversion by the average agriculturist. With the aid of this modern appliance, it is now possible to quadruple a day's work and thereby anticipate adverse weather conditions. Electricity has been an indispensable boon to the farmer in providing him with urban conveniences. Much of the heavy labor which was a necessary part of his everyday existence is now being performed by electrical labor-saving appliances. In the producing of milk, butter and cheese, electricity is employed in practically all operations as, i.e., milking machines, separators, churns, butter workers, sterilizing and bottling machines. Spraying, sheep-shearing and horse-clipping are also performed with electrical machines. It is reasonable to state that without the internal combustion engine and the various uses of electrical power, agricultural economy as it is now exemplified, would be impossible.¹

A profound change is taking place in the various schools

of thought - political and economic - relating to the national economy of the United States. In the early years of the republic when labor was not over-abundant and production was slow and laborious, current economic and political thought was based on the theory of scarcity, that is, all of the various units which went to make up the economy of that period should be co-ordinated to the end that there should be enough food, clothing and shelter for each inhabitant. As the country expanded and population grew by leaps and bounds, a new set of conditions developed. Labor became more plentiful, great stretches of land were put to agricultural uses, and small communities throughout the newer sections of the country developed into thriving, modern cities.

With the advent of the machine age, it became possible for the East with its huge manufacturing facilities to supply the ever-increasing demands of the West. On the other hand, the great agricultural industry which was becoming more productive every year found a ready market for its products in the East. This state of affairs was equitable and agreeable as long as no great surpluses of goods, both industrial and agricultural, were in the process of accumulation.

But economic forces were shaping themselves whereby the condition of scarcity, which had existed for over a century, was now gradually changing to one of abundance.
In the East, old industries based on obsolete hand labor were being supplanted by new industries built on the foundation of labor-saving machinery and factory efficiency. Production was being gradually but surely stepped up to the point where the output was slightly greater than demand. In the West and in the South, the same basic elements were at work. On the farms, in the mines, and in the great cotton-growing sections of the South and Southwest, modern machinery was helping to double and quadruple production, and a closely interlaced system of railroads finally made possible quick distribution of products between the various sections of the country.

At the turn of the twentieth century, the rapid multiplication of inventive processes made possible the producing of goods on a huge scale. This system of mass production was predicated on a consuming power greater than the inhabitants could absorb. Consequently, enormous surpluses were being accumulated, which provided us with a profitable export market.

As the export markets began to diminish, our domestic economy continued its production unabated until distribution facilities became glutted with huge surpluses. The economic theory of scarcity had now been supplanted by the theory of abundance. While heretofore the population had suffered from a lack of necessities, it now was affected
by economic maladjustment because of a surfeit of agricultural and industrial products.

One school of economists advocated the destruction of live stock, the plowing under of cotton, and the non-raising of wheat, corn and other crops in an endeavor to create scarcity and raise prices. Another school of thought opposed the foregoing view on the grounds that present surpluses could be liquidated if and when the purchasing power of the masses was increased.

One fact is indisputable. Technological unemployment is growing more serious each year. In the beginning of our industrial civilization when workers were scarce, labor-saving machinery served its purpose because it was vitally necessary in creating essential needs for a growing population. Its only purpose today is to enable manufacturers, farmers, or other units of our national economy to operate with as few workers as possible. Where the profit motive is predominant and only the strongest and most efficient organizations can survive in the intensely competitive struggle, the perfected labor-displacing machine is a ruthless and inexorable ally of the present-day economy in adding constantly to the more than ten millions who cannot be reabsorbed in the industrial life of the nation. What should and must be done? Create new industries? Enact a national 30 or 25-hour law? Change our national economy from a capitalistic base to that of government or state socialism? Take over all public utilities and operate them on
the basis of government ownership? Remove the exemption on tax-exempt state and government securities? and use the subsequent income to stimulate industry? These are the questions which have divided our political and economic thinkers into rival camps. In the meantime, unemployment is becoming our most serious problem and the government debt is mounting higher each year, placing a crushing burden of taxation on the backs of industry and every individual.

Definition of Agriculture.

In order that the many elements of our agricultural economics shall be so organized that they may present a true picture of the important part they play in our national economy, it is well that the word "agriculture" be defined correctly.

Agriculture is the science that treats of the development of the soil, and includes the art and process of supplying human wants by means of raising food products, or cultivating associated industries such as dairying, market-gardening, fruit-raising, and breeding and rearing of cattle, pigs and domestic fowl.1

The mists of antiquity have obliterated any attempts

of man to discover when this fundamental art had its inception. It must have been a wondrous discovery when our prehistoric ancestors learned that certain grains had food value and that by scattering them in the earth, they perpetuated themselves in the form of sustenance.

Historical Position of Agriculture.

Archeological unearthing of early settlements reveal evidence of animals and cultivated plants. For example, grains of wheat of a comparatively advanced type have been discovered in predynastic tombs in Egypt, in an early Sumerian house in Mesopotamia (3500 B.C.), and in dwellings of neolithic man in Italy. From this evidence one may reasonably assume that the cultivation of the soil was practiced for many ages preceding these foregoing periods.

Written history begins to take cognizance of the art of agriculture in the time of the Greeks and the Romans. At this period it had already been developed to a high state of efficiency, and an elaborate system of farming is described by Cato, Varro, Virgil, Columella, and the elder Pliny. They were aware of the value of leguminous crops as a preparation for wheat, the basic reason of which has only recently been discovered. Their methods of growing corn, wine and olives did not change materially until the middle of the nineteenth century. All in all, modern

2. Ibid.
farming is under heavy obligations to the principles of Roman agriculture.

In England during medieval times the manor was the unit of land-holding and cultivation. The king bestowed the land upon his liege lord, who then apportioned it to his tenants in return for various specific services and limited degrees of subjection. Each tenant was entitled to certain strips of land which he could cultivate to the limit of its capacity, but he was bound by his obligation to render a minimum number of days' service in working the productive lands belonging to his lord.

Under the conditions then existent, the level of production was quite low, it having been estimated that in Britain, in medieval times, the average yield of wheat was ten bushels to an acre.\(^1\) At the turn of the seventeenth century, England made a serious attempt to improve her agriculture. Sir Richard Weston (1591-1652) who farmed in Surrey in Charles I's time, is credited with the introduction of turnips, clover and other sown grasses on these crops, providing winter keep were the foundation of the improved system of agriculture.\(^2\)

England provided the nucleus of her future orchards by importing fruit trees direct from Flanders. King Henry the VIII's fruiterer, Richard Harrys, bought "105 good acres in Teynham which he divided into 10 parcels and brought plants

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2. Ibid, p. 392
beyond the seas and furnished the ground with them," which land "hath been the chief mother of all other orchards for these kindes of fruits."\(^1\) In 1731, Jethro Tull of Berkshire, the greatest original thinker about farming processes that England had produced up to that period, published his "Horse-Hoeing Husbandry".\(^2\) This book proved the basis of all improvements in the operations of cultivation during the eighteenth and early nineteenth centuries.

British farming reached its high-water mark of excellence from 1850 to 1874. During these years money was generously poured into the land and agriculture developed into a prosperous business. Farmers offered a reward if weeds could be found on their cultivated land, and their yield of corn and truck garden produce was greater than those of many other countries. British live stock was so esteemed that farmers from all over the world bought British cattle and hogs in order to improve their own native breeds.

The broad base of American tradition, whether it be agricultural or industrial economics, is decidedly Anglo-Saxon in origin. In the sixteenth and the seventeenth

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2. Ibid., p. 394.
centuries the inhabitants of this country were preponderantly of English extraction and, therefore, the agricultural economy at that period, though meager in scope, benefited largely by adapting itself largely to time-tried English practice.

When the first settlers staked their farming claims in New England, they found the land and the climate not conducive to the raising of bumper crops. Taking their cue from the Indians, who they observed were growing a species of corn which the Redmen called maize, they began to sow the same kind of crops. Having been taught by the Indians to use fish as fertilizer, the settlers obtained good yields despite the handicap of unlevel ground and stony soil.

Corn has been and is the most important crop in the United States. It is grown by more farmers, occupies more acres and has a greater total value than any other crop. In 1925, approximately two-thirds of the farmers grew corn, although less than 10 per cent of the corn crop is used directly for human food. About 40 per cent is fed to hogs, 15 per cent to cattle, 20 per cent to horses and 5 per cent to poultry. Corn, other than pasture, furnishes over one-half of the feed for live stock. As stated above, while corn as a direct food is used in small quantities, indirectly it is the most important single source of human food in the United States.1 It is grown

principally in what is known as the "Corn Belt", a strip of land 200 miles wide and 800 miles long, extending from Ohio to Nebraska, with an acreage of $2,328,843^1$ and a production of $1,823,880,173$ bushels.\(^2\)

It can be readily seen that from the year 1620, when the Pilgrims landed at Plymouth, Massachusetts, until the present day, a period of over three hundred years, the role that corn has played in the agricultural development of the country has been extraordinary. Recognized as a grain that was remarkably indigenous to the soil of either the East or the West, it proved, throughout the centuries, to be the most prolific and the most useful of the various crops and was responsible in large measure in making the United States the largest grower of food supplies in the world.

There is a direct relationship between the acquisition of the public domain and the evolution of our agricultural economy. From 1781 to 1802 the various states ceded to the United States, 268,000,000 acres. New York was the first state to turn over its lands to the Federal Government, and Georgia made the last and final gesture. When Thomas Jefferson paid the Emperor Napoleon, $27,000,000

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1. United States Census of Agriculture, 1925, Vol. 1,3,
2. Ibid., p. 38
for the territory of Louisiana in 1803, the United States acquired legal possession to 433,000,000 acres of land, which has since created billions of dollars of wealth, of which agriculture represented a large share.

In 1819, the purchase of Florida from Spain for $6,000,000 added 32,000,000 acres to the public domain. With the annexation of Texas, which involved the expenditure of $15,000,000, another 71,000,000 acres were acquired. Then followed the acquisition of the Oregon territory in 1846, comprising 166,000,000 acres. The enormous Mexican territory of 325,000,000 acres was then ceded to the United States by Mexico for a consideration of $15,000,000. The last of the public domain ceded to the United States was 15,000,000 acres along the Gulf of Mexico, known as the Gadsden Purchase. For this section of land Mexico was paid an additional $15,000,000. The following table shows the acquisition of the public domain, Continental United States, from 1781 to 1853.1

<table>
<thead>
<tr>
<th>Acquisitions</th>
<th>Date</th>
<th>Acres Added</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thirteen Colonies</td>
<td>1781-1802</td>
<td>268,000,000</td>
<td></td>
</tr>
<tr>
<td>Louisiana Purchase</td>
<td>1803</td>
<td>433,000,000</td>
<td>$27,000,000</td>
</tr>
<tr>
<td>Florida Purchase</td>
<td>1819</td>
<td>32,000,000</td>
<td>6,000,000</td>
</tr>
<tr>
<td>Texas</td>
<td>1845-50</td>
<td>71,000,000</td>
<td>15,000,000</td>
</tr>
<tr>
<td>Oregon</td>
<td>1846</td>
<td>166,000,000</td>
<td></td>
</tr>
<tr>
<td>Mexican Territory</td>
<td>1848</td>
<td>325,000,000</td>
<td>15,000,000</td>
</tr>
<tr>
<td>Gadsden Purchase</td>
<td>1853</td>
<td>15,000,000</td>
<td>10,000,000</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1,310,000,000</td>
<td>$73,000,000</td>
</tr>
</tbody>
</table>

From the foregoing table it can be seen that this enormous domain was added to the territory of the United States at a cost of approximately five cents an acre — land which eventually yielded incalculable wealth to a rapidly growing population.

When the national government was formed, it became necessary to sell some of the public lands in order to help liquidate the heavy debt that had been contracted during the war for Independence. Therefore, in 1785, the government sold land in blocks of 640 acres at $1.00 per acre. In 1796 the price was increased to $2.00 per acre by which means thousands of farmers acquired good fertile land, especially in the West, a development scheme that eventually built up a huge agricultural empire.

There were five distinct periods of land settlement, the first one between 1810 and 1819, which was partly checked by the War of 1812. But as the population grew, and the fertile lands of the West offered a constant lure of fortune and adventure to the hardy pioneer, the great trek westward became a constant and inexorable process. Another active period of migration took place between 1830 and 1839. In this decade, 62,000,000 acres of land were bought by settlers, for which the government received $79,000,000. These years represented the peak of land

development never exceeded by any other period in the history of the country. Between 1850 and 1859 another great movement westward took place, which utilized 49,000,000 acres of the public domain. The Homestead Act of 1862, with its subsequent amendments, inaugurated a policy of liberal allotments which was maintained consistently. It reached its crest of activity in the period between 1880 and 1889, when the government disposed of 45,000,000 for which it received $71,000,000. The last phase of allotments was between 1900 and 1919, when 18,000,000 acres were sold for $32,000,000.\(^1\) This land was decidedly inferior to the allotments which had previously been sold. Arid and considered as of little value, nevertheless it was purchased by those who hoped that they might be able to wrest a living from the soil, as had been done by countless others.

The disposition of the public domain is indicated by the table below:\(^2\)

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### TABLE VII B

<table>
<thead>
<tr>
<th>Date</th>
<th>Acres</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to opening land office</td>
<td>1,231,860</td>
<td>$1,050,085</td>
</tr>
<tr>
<td>1800-09</td>
<td>3,302,197</td>
<td>6,852,232</td>
</tr>
<tr>
<td>1810-19</td>
<td>14,323,192</td>
<td>38,429,123</td>
</tr>
<tr>
<td>1820-29</td>
<td>30,669,918</td>
<td>12,243,273</td>
</tr>
<tr>
<td>1830-39</td>
<td>62,316,123</td>
<td>79,123,381</td>
</tr>
<tr>
<td>1840-49</td>
<td>17,736,951</td>
<td>20,705,156</td>
</tr>
<tr>
<td>1850-59</td>
<td>49,791,624</td>
<td>44,819,370</td>
</tr>
<tr>
<td>1860-69</td>
<td>11,112,396</td>
<td>12,824,930</td>
</tr>
<tr>
<td>1870-79</td>
<td>11,213,998</td>
<td>18,128,384</td>
</tr>
<tr>
<td>1880-89</td>
<td>45,577,320</td>
<td>71,827,991</td>
</tr>
<tr>
<td>1890-99</td>
<td>11,598,751</td>
<td>24,761,471</td>
</tr>
<tr>
<td>1900-09</td>
<td>26,725,816</td>
<td>61,334,693</td>
</tr>
<tr>
<td>1910-19</td>
<td>18,571,203</td>
<td>32,513,627</td>
</tr>
<tr>
<td>1920-23</td>
<td>2,506,701</td>
<td>5,049,521</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>285,028,047</strong></td>
<td><strong>$429,673,737</strong></td>
</tr>
</tbody>
</table>

The total of the lands sold, only a fraction of the public domain which was acquired for a bare $73,000,000, gave millions of our citizens opportunities to acquire homesteads and farms at terms so generous, that a livelihood and a chance to raise a family in conformance to American standards of living were reasonably assured.

The natural grass tracts of the Middle West to about the 100th meridian contained the largest area of readily available good crop land, and soon after the Civil War, a determined attempt was made to cultivate large areas of this desirable section. From 1860 on, the influx of the farming class to this territory continued unabated until the agricultural depression in 1920. Wherever fertile land abounded, the liberal policy of the government made
it possible for individual farmers to lay the foundation for a prosperous future. The phenomenal and steady increase in the number of farms, together with their combined acreage, is shown below:

	TABLE VIII

<table>
<thead>
<tr>
<th>Date</th>
<th>Number of Farms</th>
<th>Land in Farms (Acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1860</td>
<td>2,044,077</td>
<td>407,212,538</td>
</tr>
<tr>
<td>1870</td>
<td>2,659,985</td>
<td>407,739,041</td>
</tr>
<tr>
<td>1880</td>
<td>4,008,907</td>
<td>536,086,835</td>
</tr>
<tr>
<td>1890</td>
<td>4,504,641</td>
<td>623,218,619</td>
</tr>
<tr>
<td>1900</td>
<td>6,737,322</td>
<td>838,591,243</td>
</tr>
<tr>
<td>1910</td>
<td>6,361,502</td>
<td>878,798,325</td>
</tr>
<tr>
<td>1920</td>
<td>6,443,343</td>
<td>955,833,715</td>
</tr>
<tr>
<td>1925</td>
<td>6,371,640</td>
<td>924,319,352</td>
</tr>
</tbody>
</table>

As can be seen by the foregoing figures, the number of farms between 1860 and 1925 more than tripled, and the acreage more than doubled itself. Of the three important crops, corn, cotton and wheat, the progressive increase in the yields - allowing for some temporary lapses because of drought or insect epidemic - was extraordinarily consistent, meeting in full the needs of a fast growing population and the demands of a profitable export market. The figures below are for 10-year periods.


Between the years 1860 and 1890, the tremendous growth in agriculture provided the United States with its main source of wealth. The agricultural plant approximated 838,591,774 acres,¹ and the rural population comprised 45,000,000 persons, or approximately sixty per cent of the population.²

The part that the United States played in the industrialization of Europe can only be realized when one contemplates the incredible increase in our exports. American agriculture was providing the raw materials which were steadily building up a system of industrialization, both in Europe and in America, which was destined to exceed agriculture in wealth and in importance.

By 1900 corn exports were twenty times as much as they were in 1860. Wheat and flour exports had risen to six times the former figure. Beef exports had expanded from 54,000,000 to the enormous amount of 637,000,000

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2. Edwin A. A. Seligman, Economics of Farm Relief, p.11, Columbia University Press, New York, 1929
pounds. Cotton from less than a billion to three and one-half billion pounds. Port exports increased eightfold in quantity; and the index of agricultural production kept on rising until it reached 120 in 1900.\(^1\) On the other hand, our importation of manufactured goods ready for consumption was rapidly diminishing, and instead, we were gradually increasing our imports of raw materials for use in manufacturing. As one can perceive by analyzing the following table, the industrial age was a ruthless and inexorable force with which agriculture was soon to reckon.\(^2\)

<table>
<thead>
<tr>
<th>Years</th>
<th>American Imports in Classes</th>
<th>In % of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Crude Materials for Use in Manufacturing</td>
<td>Manufactured Goods Ready for Consumption</td>
</tr>
<tr>
<td>1850-1859</td>
<td>8.55%</td>
<td>51.85%</td>
</tr>
<tr>
<td>1860-1869</td>
<td>12.54</td>
<td>41.50</td>
</tr>
<tr>
<td>1870-1879</td>
<td>14.55</td>
<td>33.76</td>
</tr>
<tr>
<td>1880-1889</td>
<td>19.47</td>
<td>30.80</td>
</tr>
<tr>
<td>1890-1899</td>
<td>24.66</td>
<td>26.28</td>
</tr>
</tbody>
</table>

At the beginning of the twentieth century, agriculture, because of the steady demand of home markets, was still enjoying an uninterrupted prosperity. Because of the steady demand of home markets, prices had risen steadily. Between 1900 and 1909 the total value of all cereals grown in the United States had increased 79.8 per cent, while the in-


crease in the yield was less than 2 per cent.\(^1\) Because of the fact that more children were born on farms than were necessary to work them, there was a continuous exodus toward the cities, where the growing system of industrialization was creating an unlimited number of factory jobs, with regular hours, better wages, and freedom from farm drudgery. By 1910, 44.8 per cent of the population lived in urban centers.\(^2\) While 34.8 per cent of the workers were engaged in agricultural pursuits against 27.8 per cent of the same group in industrial manufacturing, the latter element received 29.2 per cent of the national income, against 18 per cent for agriculture.

Along about 1910, labor-saving devices aided by motive power began to displace the function of horse-drawn apparatus. The value of farm machinery increased from $108 in 1890 to $423 in 1925. While machinery on farms in the east south central states, in 1920, was only $203, its value in the west north central states averaged $1065.\(^3\) Not long ago ploughing was done with a one-furrow walking plough. Today the general practice is to use a two-furrow plough drawn by tractors. The process of mechan-

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ization on the farms can be illustrated by the following comparisons: About fifty years ago grain binders and threshing machines were commonly used. Later the harvester was developed into the twin binder which dropped the bundles into piles for shocking. Now bundles are pitched into a pen-rack, and then pitched into the self-feeder of the threshing machine. The grain is weighed and delivered into the wagon or truck.

In raising a crop, the only hand labor necessary is in shocking the grain, pitching the grain onto the wagon and from the wagon to the threshing machine. Using the combined harvester and thresher, practically no hand labor is required to garner the crop. This and similar systems, by reducing hand labor to the barest minimum, make it possible to farm enormous areas of semi-arid land at the absolute minimum of human labor cost, together with a tremendous increase of yield.¹

Aided and abetted by our ingenious machine civilization, America had begun in the early 1900's to apply mass production methods to her agricultural industry. This resulted in huge surpluses which required constantly expanding export markets. The following illustrations exemplify the inexorable economic laws of supply and demand. In the years 1901 to 1905, the average yield of corn was

2,371,507,000 bushels with a money value of $1,046,632,000, averaging 44.1 cents a bushel. In 1915 the price of corn had reached the unprecedented height of $1.365 a bushel. One year later corn had dropped to 65.6 cents and kept on falling until in 1932 it had reached the incredibly low point of 19.5 cents a bushel.

The World War, starting in 1914, began immediately to make inroads on its peasant workers. With production curtailed, it became necessary to devise plans to import grains to make up its deficit. One year later, in 1915, the farm price had jumped from 51 cents to 59.7 cents a bushel. Within the next three years the prices had risen respectively to 85.9, 127.9, 136.5 cents per bushel. The War concluded and the imperative need no longer necessary, prices began to decline and the American farmer was overwhelmed with financial disaster. Swollen land values caused by minimum price protection and price stimulation, which had resulted in large paper profits, disappeared quickly, leaving in its wake despair and ruination.

Stimulated by the demands for food supplies by the Allies, wheat lands had been increased from 50,000,000 to 75,000,000 acre,\(^1\) which was effected by diverting other crops and some pasture lands. The five-year average of

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wheat exports, inclusive of the War, rose to 255,000,000 bushels, approximately two and one-half times the previous five-year average. For the same comparative period, the export of oats went from 10,000,000 to 83,000,000 bushels, and rye from 1,000,000 to 26,000,000 bushels.¹

The following table shows the acreage, production and value of corn, wheat, and cotton from 1901 to 1932, according to estimates of the Department of Agriculture.

<table>
<thead>
<tr>
<th>Yearly Average</th>
<th>Area 1,000 Acres</th>
<th>Production 1,000 Bushels</th>
<th>Farm Value Dec. 1 1,000 Dollars</th>
<th>Yield per Acre</th>
<th>Farm Price Dec. 1</th>
<th>Area 1,000 Acres</th>
<th>Production 1,000 Bushels</th>
<th>Farm Value Dec. 1 1,000 Dollars</th>
<th>Yield per Acre</th>
<th>Farm Price Dec. 1</th>
<th>Area 1,000 Acres</th>
<th>Production 1,000 Bushels</th>
<th>Farm Value Dec. 1 1,000 Dollars</th>
<th>Yield per Acre</th>
<th>Farm Price Dec. 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1901-1905</td>
<td>95,545</td>
<td>2,271,607</td>
<td>1,046,662</td>
<td>25.4</td>
<td>44.1</td>
<td>60,194</td>
<td>700,220</td>
<td>501,277</td>
<td>14.0</td>
<td>71.6</td>
<td>29,041</td>
<td>10,801</td>
<td>465,660</td>
<td>9.0</td>
<td>11.3</td>
</tr>
<tr>
<td>1906-1910</td>
<td>97,527</td>
<td>2,665,655</td>
<td>1,367,068</td>
<td>27.5</td>
<td>51.0</td>
<td>45,766</td>
<td>674,993</td>
<td>579,555</td>
<td>14.7</td>
<td>85.9</td>
<td>31,557</td>
<td>11,847</td>
<td>660,768</td>
<td>11.3</td>
<td>10.2</td>
</tr>
<tr>
<td>1911-1915</td>
<td>105,672</td>
<td>2,754,164</td>
<td>1,644,611</td>
<td>26.1</td>
<td>59.7</td>
<td>51,910</td>
<td>806,361</td>
<td>705,690</td>
<td>16.5</td>
<td>87.5</td>
<td>35,549</td>
<td>14,167</td>
<td>709,629</td>
<td>13.8</td>
<td>10.9</td>
</tr>
<tr>
<td>1916</td>
<td>105,596</td>
<td>2,566,927</td>
<td>2,280,729</td>
<td>24.4</td>
<td>68.9</td>
<td>52,316</td>
<td>626,618</td>
<td>1,019,968</td>
<td>12.7</td>
<td>160.3</td>
<td>33,071</td>
<td>11,448</td>
<td>112,439</td>
<td>19.6</td>
<td>19.6</td>
</tr>
<tr>
<td>1917</td>
<td>116,730</td>
<td>2,967,352</td>
<td>2,960,280</td>
<td>28.8</td>
<td>127.9</td>
<td>45,009</td>
<td>866,665</td>
<td>1,270,112</td>
<td>14.1</td>
<td>200.8</td>
<td>32,245</td>
<td>12,648</td>
<td>166,198</td>
<td>27.7</td>
<td>27.7</td>
</tr>
<tr>
<td>1918</td>
<td>104,467</td>
<td>2,505,665</td>
<td>3,416,240</td>
<td>24.0</td>
<td>136.5</td>
<td>59,161</td>
<td>921,438</td>
<td>1,881,886</td>
<td>18.6</td>
<td>214.2</td>
<td>35,036</td>
<td>13,818</td>
<td>166,288</td>
<td>27.6</td>
<td>27.6</td>
</tr>
<tr>
<td>1919</td>
<td>97,407</td>
<td>2,468,882</td>
<td>3,568,313</td>
<td>27.2</td>
<td>134.3</td>
<td>73,700</td>
<td>962,097</td>
<td>2,026,618</td>
<td>12.9</td>
<td>213.4</td>
<td>39,906</td>
<td>14,141</td>
<td>202,658</td>
<td>34.6</td>
<td>34.6</td>
</tr>
<tr>
<td>1920</td>
<td>100,960</td>
<td>2,549,317</td>
<td>2,000,567</td>
<td>20.2</td>
<td>65.6</td>
<td>64,566</td>
<td>813,654</td>
<td>728,893</td>
<td>12.7</td>
<td>80.5</td>
<td>34,408</td>
<td>14,342</td>
<td>202,658</td>
<td>13.9</td>
<td>13.9</td>
</tr>
<tr>
<td>1921</td>
<td>106,792</td>
<td>2,919,061</td>
<td>1,204,472</td>
<td>28.3</td>
<td>41.4</td>
<td>61,309</td>
<td>887,470</td>
<td>827,435</td>
<td>13.8</td>
<td>98.9</td>
<td>31,361</td>
<td>9,766</td>
<td>160,868</td>
<td>16.4</td>
<td>16.4</td>
</tr>
<tr>
<td>1922</td>
<td>99,855</td>
<td>2,688,531</td>
<td>1,748,472</td>
<td>25.9</td>
<td>68.0</td>
<td>56,980</td>
<td>759,606</td>
<td>694,363</td>
<td>15.5</td>
<td>103.9</td>
<td>29,550</td>
<td>10,140</td>
<td>197,129</td>
<td>31.0</td>
<td>31.0</td>
</tr>
<tr>
<td>1923</td>
<td>100,601</td>
<td>2,860,438</td>
<td>2,041,984</td>
<td>28.4</td>
<td>71.4</td>
<td>66,980</td>
<td>940,091</td>
<td>1,092,282</td>
<td>16.0</td>
<td>130.9</td>
<td>39,803</td>
<td>15,620</td>
<td>194,864</td>
<td>22.6</td>
<td>22.6</td>
</tr>
<tr>
<td>1924</td>
<td>100,420</td>
<td>2,505,196</td>
<td>2,265,018</td>
<td>25.0</td>
<td>97.8</td>
<td>52,460</td>
<td>868,988</td>
<td>961,101</td>
<td>12.8</td>
<td>149.5</td>
<td>44,390</td>
<td>16,105</td>
<td>146,022</td>
<td>16.2</td>
<td>16.2</td>
</tr>
<tr>
<td>1925</td>
<td>100,521</td>
<td>2,855,183</td>
<td>1,911,881</td>
<td>26.2</td>
<td>67.0</td>
<td>52,441</td>
<td>958,544</td>
<td>1,006,246</td>
<td>14.7</td>
<td>120.7</td>
<td>44,616</td>
<td>17,978</td>
<td>198,726</td>
<td>19.9</td>
<td>19.9</td>
</tr>
<tr>
<td>1926</td>
<td>99,475</td>
<td>2,674,602</td>
<td>1,643,276</td>
<td>25.9</td>
<td>82.8</td>
<td>56,815</td>
<td>874,533</td>
<td>977,406</td>
<td>14.7</td>
<td>111.4</td>
<td>25,949</td>
<td>12,956</td>
<td>163,886</td>
<td>19.5</td>
<td>19.5</td>
</tr>
<tr>
<td>1927</td>
<td>98,357</td>
<td>2,677,742</td>
<td>1,923,512</td>
<td>27.2</td>
<td>71.8</td>
<td>59,689</td>
<td>925,130</td>
<td>908,903</td>
<td>15.6</td>
<td>98.1</td>
<td>25,949</td>
<td>12,956</td>
<td>163,886</td>
<td>18.0</td>
<td>18.0</td>
</tr>
<tr>
<td>1928</td>
<td>100,356</td>
<td>2,714,591</td>
<td>2,024,680</td>
<td>27.1</td>
<td>74.6</td>
<td>59,309</td>
<td>350,888</td>
<td>1,122,295</td>
<td>15.0</td>
<td>103.5</td>
<td>32,245</td>
<td>14,825</td>
<td>124,865</td>
<td>16.6</td>
<td>16.6</td>
</tr>
<tr>
<td>1929</td>
<td>97,806</td>
<td>2,520,366</td>
<td>2,084,004</td>
<td>25.9</td>
<td>79.8</td>
<td>64,677</td>
<td>421,675</td>
<td>540,665</td>
<td>15.0</td>
<td>76.8</td>
<td>25,250</td>
<td>15,952</td>
<td>658,600</td>
<td>9.6</td>
<td>9.6</td>
</tr>
<tr>
<td>1930</td>
<td>100,798</td>
<td>2,863,241</td>
<td>1,284,074</td>
<td>25.9</td>
<td>89.4</td>
<td>56,140</td>
<td>557,219</td>
<td>352,151</td>
<td>16.3</td>
<td>39.1</td>
<td>27,705</td>
<td>17,095</td>
<td>485,664</td>
<td>6.7</td>
<td>6.7</td>
</tr>
<tr>
<td>1931</td>
<td>106,301</td>
<td>2,567,306</td>
<td>824,889</td>
<td>24.4</td>
<td>32.1</td>
<td>55,344</td>
<td>726,821</td>
<td>254,525</td>
<td>15.2</td>
<td>35.0</td>
<td>35,939</td>
<td>13,002</td>
<td>405,751</td>
<td>6.2</td>
<td>6.2</td>
</tr>
</tbody>
</table>

The foregoing table conveys a graphic picture of American agriculture and how its destiny is inextricably bound by world economic forces. Since the year 1900 the tendency of the American farmer was to obtain increasingly greater yields out of the total acreage on the assumption that a world market existed whereby the substantial surpluses could be sold. The World War, with millions of agricultural laborers in uniform, made it impossible for the various European countries to cultivate their available acreage. This unusual demand for food supplies and cotton, stretched out over a period of four years, enabled the United States to sell all of its available surplus at exceedingly good prices.

This temporary prosperity of the American farmer was the result of a temporary emergency. With the War ended, Europe soon began to cultivate her normal acreage, and the extraordinary demands on our food supplies began to lessen considerably. As prices began to decline, because of diminishing exports, they determined the price level for the domestic market. With a restricted export market, and mounting surpluses, the price curve continued its downward course until farm produce was practically without value. The situation was further aggravated by the interdependence of farm and factory. The raw materials used by the manufacturing industries come almost entirely from the farms.
Likewise, agricultural products, to a great extent, provide the transport business for railways and steamships. They also are the base from which various services perform an economic function whereby they become necessary in the industrial network of production.

Since the interdependence between industry and agriculture is so vitally essential, stability and continuity of farm production should be the objective sought, if alternations of glut and shortage are to be avoided. In recent years two serious factors developed which caused economic maladjustment and consequent depression among the farmers.

First, industries using agricultural raw materials consumed in manufacturing, because of synthetic processes and other refinements, require less raw materials than they have needed in the past. Second, the domestic market for agricultural products depends upon healthy industrial conditions. From 1900 to 1929, manufacturing output increased tremendously, but the number of factory workers did not keep pace with the industrial output. As the industrial activity receded during 1930, 1931 and 1932, all the per capita gains of the previous thirty years were destroyed. With widespread unemployment and payrolls stopped, the purchasing power of the urban population was cut almost in half.
as a result, a great proportion of farm products either could not be sold at all, or had to be disposed of at prices that were way below cost.

Three definitely known factors confront the American farmers to which they must adjust themselves, if they are to survive. First, export markets are still unable to utilize agricultural surpluses. Second, industries which supply manufacturers with raw materials, are less in need of the farmers' output than ever before. Third, the purchasing power of the industrial masses is still way below the level where they can absorb the present domestic agricultural output.

Since continued overproduction means that goods must be stored, processed and then moved into consumption at very low prices, the only hope for the farmers is that they reduce their output to conform to the domestic demands. Another factor which has accentuated their dilemma, has been the back-to-the-farm movements, by which urban populations have sought to improve their lot by adapting themselves to rural pursuits. This has resulted in a further agricultural-industrial unbalance by reducing the number of potential users of farm products on the one hand, and increasing agricultural production, on the other hand, for which there is no possible market. ¹

The differences in soils and their relative fertility are factors which must be scientifically ascertained if the maximum productivity is to be gained from agricultural pursuits. Up to about a hundred years ago, farming was conducted on an empirical basis, personal experience and rule-of-thumb methods indicating its procedure. Then scientific men began to turn their attention seriously to agriculture, and soon within the limits of the then existing knowledge, reasonably accurate explanations were given as to the broad differences in the behavior of various soils.¹

With the founding of agricultural colleges and with the establishing of agricultural departments by the various countries, new discoveries and applications made it possible to determine the selective properties of different soils. In recent years, small countries, like Holland, Belgium and Denmark, have applied modern scientific principles to methods of intensive cultivation and have attained remarkable results with both the quality and quantity of their yields.

Geographical Basis of American Agricultural Development.

Variable climates profoundly affect the condition of different soils. For instance, most parts of the United States are too hot for the best yields of small grains and potatoes, yet because of the warmer temperatures the cornyields of this country are much higher per acre than those of Europe. The best yields of small grains

are obtained in countries where the temperature is too cool to raise corn. Europe obtains five bushels more wheat and oats per acre than the United States (see table below), but produces eight bushels less corn.

The yields of potatoes per acre in Belgium are over twice that of France. France has a climate warm enough to obtain small yields of corn, although there is none raised in Belgium. On the other hand, the yields of all small grains and potatoes in France are higher per acre than in the United States.¹

**TABLE XII**

**Crop Yields Per Acre, In Bushels, 1921-25²**

<table>
<thead>
<tr>
<th>Country</th>
<th>Corn</th>
<th>Wheat</th>
<th>Rye</th>
<th>Oats</th>
<th>Barley</th>
<th>Potatoes</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>27.7</td>
<td>13.8</td>
<td>13.9</td>
<td>30.8</td>
<td>24.8</td>
<td>107</td>
</tr>
<tr>
<td>Europe</td>
<td>19.3</td>
<td>16.4</td>
<td>20.5</td>
<td>35.8</td>
<td>23.4</td>
<td>169</td>
</tr>
<tr>
<td>Asia</td>
<td></td>
<td></td>
<td>11.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern Hemisphere</td>
<td>21.14</td>
<td>12.7</td>
<td></td>
<td>13.7</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Iowa</td>
<td>39.9</td>
<td>19.1</td>
<td>17.6</td>
<td>36.1</td>
<td>28.6</td>
<td>36</td>
</tr>
<tr>
<td>Maine</td>
<td>24.4</td>
<td></td>
<td></td>
<td>38.6</td>
<td>262</td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>38.9</td>
<td>30.8</td>
<td>62.6</td>
<td>49.1</td>
<td>286</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>27.3</td>
<td>23.8</td>
<td>44.1</td>
<td>31.3</td>
<td>231</td>
<td></td>
</tr>
<tr>
<td>England and Wales</td>
<td>32.9</td>
<td></td>
<td>47.4</td>
<td>32.5</td>
<td>231</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>17.8</td>
<td>21.5</td>
<td>18.5</td>
<td>35.3</td>
<td>26.6</td>
<td>125</td>
</tr>
</tbody>
</table>

The same fluctuations of climate exist in the


### Table

<table>
<thead>
<tr>
<th>Value</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>2.0</td>
<td>3.0</td>
<td>4.0</td>
</tr>
<tr>
<td>5.0</td>
<td>6.0</td>
<td>7.0</td>
<td>8.0</td>
</tr>
<tr>
<td>9.0</td>
<td>10.0</td>
<td>11.0</td>
<td>12.0</td>
</tr>
<tr>
<td>13.0</td>
<td>14.0</td>
<td>15.0</td>
<td>16.0</td>
</tr>
<tr>
<td>17.0</td>
<td>18.0</td>
<td>19.0</td>
<td>20.0</td>
</tr>
</tbody>
</table>

---

*Note: This table is a representation of data collected from a specific experiment.*
United States that are characteristic of various sections in Europe. Because of lower temperatures the average yield of potatoes in Maine is higher than yields in Germany, England or France, and what is more exceptional, Maine's potato yield is almost as high as Belgium's, i.e., 262 bushels per acre for Maine, against 260 bushels per acre for Belgium.¹ The small-grain yields in Iowa are about the same as those of France, but corn yields in this state are twice as high, again illustrating the effects of climate on a particular crop. The only part of the United States that has a climate similar to that of Europe is the State of Washington. In 1925, some of the counties in this region had yields of over 40 bushels of wheat per acre, and 75 to 80 bushels of oats.²

From the standpoint of crop diversification, the United States is geographically divided. The section along the Gulf of Mexico and extending up the coast of Georgia and South Carolina has a climate that is humid and sub-tropical. This territory contains the so-called cotton-belt, although there are three centers of intensive production. One area extends across Georgia and the Carolinas; the second along the Mississippi River from the northern border of Tennessee to that of Louisiana. The third intensive area is in Texas.

² Ibid., Vol. 1, p. 413
and Oklahoma. Cotton is the South's mainstay, about one-half of the crop being exported. The northeastern section of the country is the great hay and dairy region. The average yearly production of milk per cow is 5,500 pounds, but in many regions in New York State, where dairying is conducted intensively, the average is about 5,700 pounds. The great grazing lands of the West are grown with timothy and clover, two hardy grains, but most of the beef cattle are fattened in the corn belt. As can be seen by the following table, the increase in the number of cattle, hogs, and fowl has kept pace with the needs of the growing population.

TABLE XIII
Number of Animals on Farms in the United States

<table>
<thead>
<tr>
<th>Date</th>
<th>Total Cattle</th>
<th>Dairy Cows</th>
<th>Hogs</th>
<th>Sheep</th>
<th>Chickens</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850 June 1</td>
<td>17,773,907</td>
<td>6,385,094</td>
<td>30,354,213</td>
<td>21,723,220</td>
<td></td>
</tr>
<tr>
<td>1860 &quot;</td>
<td>25,620,019</td>
<td>8,585,735</td>
<td>33,512,867</td>
<td>22,471,275</td>
<td></td>
</tr>
<tr>
<td>1870 &quot;</td>
<td>23,820,608</td>
<td>8,935,332</td>
<td>25,134,569</td>
<td>23,877,951</td>
<td></td>
</tr>
<tr>
<td>1880 &quot;</td>
<td>32,675,533</td>
<td>12,443,120</td>
<td>49,772,230</td>
<td>42,192,074</td>
<td></td>
</tr>
<tr>
<td>1890 &quot;</td>
<td>57,648,792</td>
<td>16,511,950</td>
<td>57,428,859</td>
<td>40,976,312</td>
<td>258,671,125</td>
</tr>
<tr>
<td>1900 &quot;</td>
<td>67,719,410</td>
<td>17,135,633</td>
<td>62,863,041</td>
<td>61,503,713</td>
<td>233,565,021</td>
</tr>
<tr>
<td>1910 Apr. 15</td>
<td>61,803,866</td>
<td>20,625,432</td>
<td>58,185,676</td>
<td>52,447,861</td>
<td>280,340,059</td>
</tr>
<tr>
<td>1920 Jan. 1</td>
<td>66,652,559</td>
<td>19,675,297</td>
<td>59,346,409</td>
<td>35,033,516</td>
<td>359,537,127</td>
</tr>
<tr>
<td>1925 &quot;</td>
<td>60,760,366</td>
<td>17,644,867</td>
<td>50,353,526</td>
<td>35,590,159</td>
<td>409,250,849</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
<th>Column 4</th>
<th>Column 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value 1</td>
<td>Value 2</td>
<td>Value 3</td>
<td>Value 4</td>
<td>Value 5</td>
</tr>
<tr>
<td>Value 6</td>
<td>Value 7</td>
<td>Value 8</td>
<td>Value 9</td>
<td>Value 10</td>
</tr>
<tr>
<td>Value 11</td>
<td>Value 12</td>
<td>Value 13</td>
<td>Value 14</td>
<td>Value 15</td>
</tr>
<tr>
<td>Value 16</td>
<td>Value 17</td>
<td>Value 18</td>
<td>Value 19</td>
<td>Value 20</td>
</tr>
<tr>
<td>Value 21</td>
<td>Value 22</td>
<td>Value 23</td>
<td>Value 24</td>
<td>Value 25</td>
</tr>
</tbody>
</table>
The great corn-producing areas are concentrated, to a considerable extent, in the South Atlantic and South Central States. In the South Central States vested economic combines are not as powerful as in other agricultural sections. Here tenantry is quite common, and the human element, from the standpoint of the individual, has a greater opportunity to earn a livelihood from the land.¹

There is a considerable portion of the West where the total rainfall is so inadequate that the soil is arid or semi-arid. Within recent years, irrigation projects have reclaimed many thousands of acres for the needs of ordinary farming; but, in general, this area is only good for wild hay, and grazing, dry farming, and in certain localities winter crops are raised.² The climate again changes as one approaches the Cascade and Sierra Nevada mountain ranges. From this point and extending well down into California, there is a great region of hay, pasture, and huge tracts of forests.³ Southern California has a sub-tropical climate but this territory by no means monopolizes the warm-zone fruits. Although the altitude of the western half of the state averages more

than 4,000 feet,¹ citrus fruits grow in the Sierra foothills of the great interior valley.

Irrigation projects scientifically applied, intensive cultivation, and the increase of small farms have made California an agricultural region of some significance, but its greatest income is derived from its fruit-growing area. The great Santa Clara Valley, bounded on the east by the Coast Range and on the west by the Santa Cruz Mountains, raises enormous quantities of prunes, peaches, and many other kinds of fruits. The total acreage devoted to agriculture in this state, in 1925, had the following distribution: Main field crops, 4,551,200 acres; main fruit crops, 1,502,500 acres; and vegetable crops, 247,800 acres.

The average value per harvested acre was $42.51 for field crops; $101.60 for fruit; and $98.50 for vegetables, giving total values of $193,484,000, $228,366,000, and $52,047,000 for the respective crops, or a total value of $473,897,000. The following table shows the ranking and value of the 20 most valuable crops in 1925:

---

### TABLE XIV

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>FARM VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oranges</td>
<td>$79,200,000</td>
</tr>
<tr>
<td>Hay, cultivated</td>
<td>75,795,000</td>
</tr>
<tr>
<td>Barley</td>
<td>24,180,000</td>
</tr>
<tr>
<td>Raisin Grapes</td>
<td>23,850,000</td>
</tr>
<tr>
<td>Wine Grapes</td>
<td>22,910,000</td>
</tr>
<tr>
<td>Beans</td>
<td>18,737,000</td>
</tr>
<tr>
<td>Lemons</td>
<td>18,000,000</td>
</tr>
<tr>
<td>Wheat</td>
<td>16,956,000</td>
</tr>
<tr>
<td>Prunes</td>
<td>15,950,000</td>
</tr>
<tr>
<td>Cotton</td>
<td>14,590,000</td>
</tr>
<tr>
<td>Peaches</td>
<td>14,430,000</td>
</tr>
<tr>
<td>Walnuts</td>
<td>13,420,000</td>
</tr>
<tr>
<td>Lettuce</td>
<td>13,134,000</td>
</tr>
<tr>
<td>Potatoes</td>
<td>13,020,000</td>
</tr>
<tr>
<td>Cantaloupes</td>
<td>9,872,000</td>
</tr>
<tr>
<td>Fears</td>
<td>9,412,000</td>
</tr>
<tr>
<td>Rice</td>
<td>8,055,000</td>
</tr>
<tr>
<td>Table Grapes</td>
<td>7,776,000</td>
</tr>
<tr>
<td>Asparagus</td>
<td>7,698,000</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>7,678,000</td>
</tr>
</tbody>
</table>

The modern orange industry began in 1873, when two seedless orange trees from Brazil were introduced into Southern California. By means of the budding process, millions of trees have been developed which bear a seedless fruit, which is in great demand throughout the United States. This fruit is so staple that shipments continue throughout the year.

The Primary Function of Agriculture.

From its earliest days when agriculture was practically the only industry until the present when it has been sur-

passed in importance by manufacturing and servicing groups, its basic function has been essentially elemental. Originally, our people did not go into farming in order to accumulate fortunes. Their purpose was to provide a living for themselves and their growing families. If in the course of their busy, productive existence, surpluses accumulated, they were converted into moderate luxuries, which brought a little color into their prosaic lives. The first American farmers, with their crude implements and their uncertain knowledge of agriculture, had all they could do to produce enough to maintain their families and the adjacent communities in health and comfort. When uncertain weather conditions, drought or poor soil caused the failure of a season's crop, it was a disaster from the effects of which it took considerable time to recuperate. Theirs was a simple way of life. They worked hard, their needs were simple and few, and in a large measure they were contented with their lot.

Gradually but surely a transition occurred in the farming community's habits and methods. New inventions, discoveries, and constant improvement in transportation facilities endowed the agricultural industry with increased knowledge, stepped up its production manyfold, and facilitated the quick disposal of surplus products. The inexorable urge of progress affected the farmer as well as the
manufacturer. Not only did it become necessary to supply the food for the American table, but the agricultural resources were called upon to furnish the raw materials for much of our industrial activity.

But in the process of exchange - which naturally had to be effected through the medium of money - the farmer's share was so inadequate that his financial condition went from bad to worse and in thousands of cases became incurable. Much of the farmer's financial troubles have been attributed to the artificial control of industrial combines which bought the products of the farm at reduced prices and sold the finished manufactured goods to the farmer at prices which he was forced to pay because of closely organized monopolies.

Despite the financial predicament of the agricultural class, they must and will remain as an unbroken entity, for they are the nation's first and indispensable industry and have chosen their way of life because an inexpressible urge impels them to carry on in the only way they know, irrespective of natural vicissitudes and financial reverses.

Paradoxical as it may seem, the mechanization of agriculture, instead of providing a greater return to the farmer by increasing his capacity to produce, disorganized the industry, with resultant failure to satisfy its economic wants and desires. Its foundation having been shat-
tered by the aftermath of the post-War reaction, the agricultural structure began to decline. This process continued, despite attempts of government bolstering until financial disintegration had been completely effected. With the basic industry of the country financially prostrated, the collapse of the manufacturing structure began in 1929.

As the destructive process continued, services formerly essential to the proper functioning of the industrial unit practically disappeared from the economic scene. When these base structures became prostrate, the super-structure - banking - began to decline and finally collapsed in 1933.

Place of Agriculture in our Modern Economic Society.

The study of our national economy shows that each unit is related to, and dependent on, every other unit. They can be compared to the links of a vast chain, the weakness of one link causing the breaking of the entire chain. The experience of the past has revealed that income must be diffused, if the national economy is to reach a high level of prosperity. Therefore when the interdependent units are continually buying and exchanging goods and raw materials, when finished products find a ready market, the continuous current of expenditures makes for a healthy national income.

Though the importance of any one element in the economic order in its relationship to total income can
per cent gained a livelihood from agriculture. The figures for 1860, 1890, 1900 and 1910 show respective agricultural decreases of 44.4, 39.2, 35.7 and 33.2 per cent. The curve continued downward, dropping to 26.3 per cent in 1920 and to the final low of 21.5 per cent in 1930.¹

The 10,432,000 agricultural workers were divided, as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer-proprietors</td>
<td>6,013,000</td>
</tr>
<tr>
<td>Managers</td>
<td>74,000</td>
</tr>
<tr>
<td>Farm Laborers:</td>
<td></td>
</tr>
<tr>
<td>Wage workers</td>
<td>2,727,000</td>
</tr>
<tr>
<td>Unpaid family workers</td>
<td>1,645,000</td>
</tr>
<tr>
<td>Other</td>
<td>18,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10,432,000</strong></td>
</tr>
</tbody>
</table>

The farm population which, in 1920, was 31,614,269, or 29.9 per cent of the total population, decreased, in 1930, to 30,445,350, a loss of 1,168,919, or a shrinkage to 24.8 per cent of the total population.³

From 1920 to 1930 the population of continental United States increased 10.1 per cent. While the rural non-farming population increased 18 per cent, the actual farm population registered a decrease of 3.8 per cent.⁴

---

The number of families recorded for the rural population in 1930 was 12,532,139. Of this number the farm population is computed at 56.6 per cent. Based upon a proportional representation, the number of families directly dependent on agriculture for a living is 7,093,000.¹

The first significant increase in the farm population in a quarter of a century occurred in 1930, when the net inflow to farms amounted to 17,000 persons. The next year continued unemployment in industrial centers caused a further influx of 114,000 persons into farming sections.² It is this type of undirected and uncoordinated movement of city populations toward farming centers which aggravates the agricultural-industrial disparity by increasing the quantity of farm products which are salable, when at the same time the demand for foodstuffs begins to diminish.³

One of the largest items of expense to the farmer is that of hired labor. Ordinarily they have their fixed status in the agricultural scheme, but during harvest time farm labor in considerable quantities becomes indispens-

able. One of the disturbing facts discovered in recent years is the diminishing need of human beings in the productive life of the country. In line with this tendency, the working element of the farm population required to produce the foodstuffs and raw materials, has declined steadily in the past century. In 1820, it represented 87 per cent of the entire population. In 1930, it had shrunk to the extraordinarily low of 11.7 per cent of the total population, and to 29 per cent of the farm population. These figures check accurately with the economic dictum that as science and invention progress, the proportion of the population required for agricultural production inevitably declines. For instance, scientific farming and gasoline-driven machinery have displaced approximately 20 per cent of the farm population, and as additional labor-displacing machinery is introduced, the number of superfluous agricultural workers increases each year.

Agricultural expansion in the United States reached it approximate limitations in 1850. The problem from that period onward was that of intensive development. Of


the total land area in that year, consisting of 1,903,000,000 acres, about 468,000,000 acres were arid soil adapted for grazing purposes only; 328,000,000 were humid land, suitable only for forests and incidental grazing; about 973,000,000 acres are either crops or pasture though much of it could be cultivated with the expenditure of great sums of money. The foregoing figures represent our agricultural "plant".

In 1920, approximately 956,000,000 acres, almost the entire available acreage, was in use. Of this amount, 503,000,000 acres had been improved, and only 350,000,000 acres of this improved land could be used for raising crops. In 1930, the total acreage of all farms was 986,771,000, which represents a large increase from 924,319,000 to which it had declined in 1925. 413,000,000 acres of this 1930 acreage consisted of crop land, an increase of 22,000,000 acres; and 464,000,000 acres was in pasture land, an increase of 56,000,000 acres - both increases dating since 1925. Of the total land area in the United States in 1930, the total farm acreage represented 51.8 per cent.

For the last century the development of agriculture has kept pace with the basic needs of the growing population. With the efficient application of modern agricultural problems in the United States, p. 23.
National Industrial Conference Board, 1926.

2. Ibid., p. 24

tural science, little difficulty should be had in supplying food and raw materials in greater quantities than ever before to our people for the next twenty years. This can be achieved by the addition of 40,000,000 acres to our present crop land, with a slight increase in yield per acre. Adopting the foregoing adjustments, together with some changes in the people's dietary, it should be possible, without any difficulty, to feed a potential population of 150,000,000 in 1950, and still have a surplus for export.¹

In 1860, our agricultural wealth amounted to $7,900,000,000, approximately one-half of the national wealth of that period, or $15,700,000,000.² For the next sixty years it kept on steadily, increasing in value. At the zenith of its prosperity, in 1919, the agricultural industry of the United States was valued at $79,100,000,000, a more than five-fold increase. In 1932, it had shrunk to the low-water mark of $30,700,000,000.³ The preceding figure has excluded agriculture's outstanding contribution, which in the same year amounted to $11,323,000,000, or a little over 36 per cent of the "value of the plant."

³ Ibid., p.11.
CHAPTER III

THE IMPORTANCE OF AGRICULTURE IN THE ECONOMY

Its General Importance.

Despite the fact that agriculture enjoyed a certain amount of affluence, which was mainly the result of its being the basic industry of the country, it did not share in the general prosperity in the same proportion as did the other elements in the national economy. It has been indicated by leading economists for many years that the demand for goods is created by the production of other goods. When an industrial state has adjusted its productive facilities so that each of the elements has been coordinated to function efficiently in relation to the entire group, the purchasing power of each group, represented by its total products, can be applied to the utilization and interchange of the products of all the other groups. ¹

Income is, in general, derived by an industry when it supplies essential goods or services in exchange for money which can be used to effect a similar function of direct benefit to that particular industry. Other forms of national income are various sums of money received for superior craftsmanship resulting in a finished product, or moneys received for exceptional services which accelerate the flow of benefits from one industry to another. The third measurement of national income is the consumer expenditures for goods and services which are finally consumed or removed from the processes of production.

The proportion in which the farmer adapts himself to these three methods of income-deriving indicates his integral relationship to the national economy as a whole.

The Farmer's Annual Expenditures.

In order that it may be possible to measure the outward flow of income from agriculture to other units of the economic structure, it is necessary to ascertain the cash income received from farm production. From 1929 to 1932 the cash income from farm products was as follows:

<table>
<thead>
<tr>
<th>TABLE XV</th>
<th>IN MILLIONS OF DOLLARS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1929</td>
</tr>
<tr>
<td>Crops</td>
<td>4,834</td>
</tr>
<tr>
<td>Livestock and Livestock Products</td>
<td>5,400</td>
</tr>
<tr>
<td>Total</td>
<td>10,234</td>
</tr>
</tbody>
</table>

These foregoing amounts represent moneys paid for wages, rent, interest, taxes, seed, fertilizer, farm implements, other farm machinery, equipment, ginning, etc. They also include expenditures based on changes in farm indebtedness and for motor equipment essential for production purposes.

Taking the agricultural industry as a whole, the financial transactions involved are comparatively small when contrasted with the huge total of the nation's in-

come or expenditures. Out of a national expenditure for production purposes of $277,600,000,000 in 1929, the farmer's share was $12,000,000,000. Even at the peak of prosperity, the American farmer, collectively, placed into circulation only 4.2 per cent of the moneys spent in United States in preparing goods for consumption. In 1932 the percentage ratio was even less, agricultural production expenses totaling $4,800,000,000 compared with the entire country's total of $125,300,000,000, only 3.7 per cent of the "all" figure.1

The unique position of agriculture in exemplifying its function in the productive process is herewith illustrated. The agricultural plant is a self-contained unit. The products originate within the industry, none of the elements having an outside source. As soon as the products are ready to be marketed, a potential exchange value has been created, and when the goods have been distributed and the cash income therefor is in the hands of the farmer, its basic objective has been fulfilled.

The agricultural population of the United States has a consuming function that is vital in maintaining the satisfactory flow of productive processes throughout the economy. As a consumer, the farmer is dependent for

his purchasing power upon his share in the general economic efforts.\(^1\) Agriculture's place in the national economy is so deeply rooted that any system or tendency which impedes or reduces its buying capacity or discounts its product, upsets its normal equilibrium and decreases greatly the vigor of the nation's economic flow.

In line with the foregoing, the percentage distribution of total consumer expenditures among the major consuming groups is listed herewith.

**TABLE XVI**

<table>
<thead>
<tr>
<th>Consumer Groups</th>
<th>1924-1929 Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>10</td>
</tr>
<tr>
<td>Industrial Workers</td>
<td>31</td>
</tr>
<tr>
<td>Clerical Workers</td>
<td>19</td>
</tr>
<tr>
<td>Business Executives</td>
<td>17</td>
</tr>
<tr>
<td>Professional</td>
<td>10</td>
</tr>
<tr>
<td>Civil Employees</td>
<td>5</td>
</tr>
<tr>
<td>Propertied Classes</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The foregoing table reveals some defects in our system of distribution. For instance, the propertied classes, notwithstanding their possessing an inordinate portion of the wealth of the country, as consumers stand slightly lower in the scale than agricultural groups. The clerical and

---

industrial workers have a consuming power equal to all the other groups together, the latter ranking first in importance, exceeding agriculture by a ratio of more than three to one.

The Interdependence of Economic Activity.

While our economy has gradually changed from a type of self-sufficiency to that of inter-dependency, agriculture is still of considerable importance in many sections, although exterior factors have contributed greatly to lessen its influence. In many parts of the South, in Iowa and in the states of North and South Dakota, the keystone of the economy is almost wholly agricultural. The East, generally speaking, because of its industrial economy, has subordinated agriculture to a minor position. On the other hand, New England, with the exception of the highly industrialized states of Rhode Island and Massachusetts, has a very important agricultural economy from which it derives its livelihood.

Business enterprise, by its very present-day development, is the exemplification of inter-dependency, without which our economic society could not function. Vast industries have within themselves autonomous units which produce goods independently which would be of little use unless they were passed on to the next autonomous unit and

so down the line until, in their completed state, they reached the ultimate consumer. For example, take a unit comprising food. The chain of progression begins with the wheat grower whose product is transported by especially equipped grain-carrying railways to huge elevators where it is stored. It is then released in specified quantities to flour mills. Distributed to wholesale dealers, the flour is purchased by retail bakeries which now place the finished product — bread, cake, cookies, etc. — into the hands of the ultimate consumer. The foregoing is a typical illustration of the inter-dependency of a series of ostensibly independent economic units which finally reach their logical outlet.

This same concept of inter-dependency can be applied to industrial enterprise in its relation to the national economy. Without a constant supply of fuel from the mines, the steel industry could not function. Modern, efficient, machinery enables both the mining and steel industries to supply the necessities of practically all other essential industries. To carry the analogy further, every industry is dependent on some dissimilar enterprise for its efficient functioning, i.e., the railroads provide transportation; advertising effects mass distribution of goods;

while banking provides the credit without which the entire industrial economy would collapse.

All industries should maintain a medium amount of production without exception. When one basic enterprise can no longer maintain concurrent production, the workers in that industry are impeded in their expenditures. Partial paralysis of purchasing power in one group causes a reduction in consumer expenditures of other groups, with the result that those who remain at work find that their incomes have inevitably diminished.¹

The foregoing principle of inter-dependency is graphically illustrated by the relationship which agriculture bears to industrial enterprise and vice versa. In a state of isolation, agriculture would languish and deteriorate. Industry without the cooperation of agriculture would soon disintegrate and become paralyzed. Complementing each other, they enjoy a fair measure of prosperity. Yet it has been a fact in the past that agriculture, notwithstanding its capacity to supply industry with raw-material necessities in abundance has been in the throes of depression. This anomaly is produced by inequality of price fluctuations.

On the one hand, vast surpluses produced by agricul-

ture provide a buyer's market whereby industry obtains its raw materials at prices which barely meet the farmer's costs. On the other hand, industry supplies essential machinery and finished goods to agriculture on its own terms. This means that, despite their basic inter-dependency, agriculture remains depressed while industry enjoys a fair measure of prosperity. 1

A factor that is inextricably bound up with the farmers' welfare, and which has a vital significance to their very existence, is the general price level. Prices are amounts at which commodities are valued or sold in the market, and their unit of purchasing power is expressed in terms of money. The general price level is the expression, in terms of money, of the interrelations of all prices. Therefore, when the general price level fluctuates, it is either because there have been alterations in the mass of commodities, or that money, interpreted in its broader terms, has suffered from some basic dislocations. 2

For about one hundred years preceding the World War, agricultural products experienced a progressive rise in exchange value. Following the industrialization of large sections of the country, together with a steady increase

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of population, agricultural products found a profitable domestic market, while at the same time there was a decline in the prices of factory goods. The World War created a set of conditions which demoralized the orderly economic processes which had prevailed for a century. Following this economic setback came the second post-war depression, a debacle which wiped out the wealth acquired by ninety years of concentrated labor and sacrifices.

From 1875 to 1920, the trend of farm prices, as compared with those of manufactured goods, reflected a steady rise. Hence, theoretically at least, farm products should show a sustained purchasing power without government aid or subsidy. In actual practice, however, industry showed marked superiority over agriculture in adapting itself to changing technological conditions. Since constant improvements in factory technique, increased productivity of individual workers, and scientifically coordinated mass production have enabled industrial enterprises to reduce their costs so much lower than agriculture has ever been able to achieve, they have consequently attained a superior purchasing power.

Another factor which has impaired the purchasing power of the farmer since 1920 is his inability to control production, together with the enforced idleness of his po-

tential capacity to produce when his products will not sell at artificially determined prices. The foregoing illustrates a basic flaw in our marketing system which affords the farmer's income and purchasing power no protection against drastic deflation in declining markets. The interdependence of the various elements affects the monetary flow, for agriculture's impaired purchasing power forces an economic cycle which has an adverse effect on industry's income and capital structure as well as on the economic well-being of the farmer.  

Agriculture and Industry.

The agricultural implement industry in the United States has developed into a powerful enterprise and comprises an enormous amount of capital. Between 1900 and 1910, a new era in the manufacture and sale of farm equipment was introduced. Several large combinations of manufacturers pooled their interests in order to secure complete lines of merchandise and to economize on development and sales work. Much of the credit for the smooth functioning of the farm implement manufacturing industry is due to the foresight of such men as Oliver, Steward, Wood, Deere, McCormick, Deering, Osborne, etc. The following table gives a financial resume from 1850 to 1925.

### TABLE XVII

<table>
<thead>
<tr>
<th>Census Year</th>
<th>Value of Machinery and Implements on Farms in the United States</th>
<th>Manufacture of Agricultural Machinery</th>
<th>Value of Manufactured Products Including Goods Exported</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850</td>
<td>$151,587,638</td>
<td>1333</td>
<td>$3,564,202</td>
</tr>
<tr>
<td>1860</td>
<td>246,118,141</td>
<td>2116</td>
<td>11,477,239</td>
</tr>
<tr>
<td>1870</td>
<td>338,878,429</td>
<td>2076</td>
<td>34,834,600</td>
</tr>
<tr>
<td>1880</td>
<td>406,520,055</td>
<td>1943</td>
<td>62,109,688</td>
</tr>
<tr>
<td>1890</td>
<td>494,247,467</td>
<td>510</td>
<td>145,313,997</td>
</tr>
<tr>
<td>1900</td>
<td>761,261,550</td>
<td>715</td>
<td>157,708,255</td>
</tr>
<tr>
<td>1909</td>
<td>1,265,149,783</td>
<td>604</td>
<td>256,281,000</td>
</tr>
<tr>
<td>1910</td>
<td>3,267,409</td>
<td>256,281,000</td>
<td>146,329,268</td>
</tr>
<tr>
<td>1920</td>
<td>3,594,772,928</td>
<td>583</td>
<td>365,962,052</td>
</tr>
<tr>
<td>1925</td>
<td>2,081,703,629</td>
<td>303</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

In 1931, there were 219 agricultural implement plants with 17,529 employees, and they earned $19,106,000. The value of the machinery they manufactured totaled $84,288,000. The textile industry reflects the following statistics for 1931:

### TABLE XVIII

<table>
<thead>
<tr>
<th>Industry</th>
<th>Number of Establishments</th>
<th>Average Number of Wage Earners</th>
<th>Wages In Year</th>
<th>Value of Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton Goods</td>
<td>1140</td>
<td>329,962</td>
<td>$219,680,000</td>
<td>$805,792,000</td>
</tr>
<tr>
<td>Knit Goods</td>
<td>1706</td>
<td>178,011</td>
<td>$149,589,000</td>
<td>$885,877,000</td>
</tr>
<tr>
<td>Woolen Goods</td>
<td>381</td>
<td>42,878</td>
<td>$42,998,000</td>
<td>$157,356,000</td>
</tr>
<tr>
<td>Worsted Goods</td>
<td>240</td>
<td>76,659</td>
<td>74,584,000</td>
<td>338,837,000</td>
</tr>
</tbody>
</table>

1. World Almanac, 1936, p. 309
2. Ibid
<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
<th>Column 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value 1</td>
<td>Value 2</td>
<td>Value 3</td>
<td>Value 4</td>
</tr>
<tr>
<td>Value 5</td>
<td>Value 6</td>
<td>Value 7</td>
<td>Value 8</td>
</tr>
<tr>
<td>Value 9</td>
<td>Value 10</td>
<td>Value 11</td>
<td>Value 12</td>
</tr>
</tbody>
</table>

This table contains some data that can be analyzed or used for further calculations.
The chemical industry comprises the manufacture of approximately 35 different products, many of them essential to agriculture in the stimulation and the enrichment of the soil. In 1931, the industry manufactured products totaling the gross amount of $549,036,000.1 In 1932, the public utility electric power plants in the United States manufactured by means of fuel power 49,055,000 kilowatt-hours of electricity. The gross income in 1927 of central electric stations, who cater principally to public and private consumers, which includes a great proportion of farms, was $1,342,227,000.2

The foregoing industries, namely, agricultural implements, textiles, chemicals and power, are closely associated and to a great extent dependent on agriculture for their well-being. The reciprocal relationship is based upon the furnishing of raw materials by the farmers and receiving in return the finished products. Here again is exemplified the principle of inter-dependency between agriculture and industry, a powerful factor in promoting the efficient distribution and prosperity of the national economy.

Agriculture and Commerce.

Among the nations of the world, the United States ranks first in the production of agricultural products. With less than 4 per cent of the farmers of the world, it


2. Ibid., p.325.
produces over 60 per cent of the corn, 60 per cent of the cotton, over a third of the tobacco, a fourth of the oats and hay, a fifth of the wheat, 13 per cent of the barley, 12.5 per cent of the flax, and 4 per cent of the rye.¹ of these crops, cotton, tobacco, wheat, barley and rice are specifically on an export basis. Although corn in its natural state is exported, relatively in small amounts, it reaches the export market in large volumes in the form of pork and lard. The following table shows the value of exports of principal agricultural products or groups of products for the years 1910 to 1932, inclusive:²

TABLE XIX

<table>
<thead>
<tr>
<th>Products (Fiscal)</th>
<th>1910-1914</th>
<th>1921-1925</th>
<th>1926-1930</th>
<th>1927</th>
<th>1928</th>
<th>1929</th>
<th>1930</th>
<th>1931</th>
<th>1932</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grand Total</td>
<td>1035.7</td>
<td>2013.2</td>
<td>1691.6</td>
<td>1884.6</td>
<td>1863.1</td>
<td>1692.9</td>
<td>1200.7</td>
<td>821.4</td>
<td>662.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Live Animals</td>
<td>13.0</td>
<td>10.0</td>
<td>5.8</td>
<td>6.7</td>
<td>6.5</td>
<td>5.8</td>
<td>4.2</td>
<td>1.6</td>
<td>.9</td>
</tr>
<tr>
<td>Meats</td>
<td>62.7</td>
<td>133.2</td>
<td>71.4</td>
<td>64.2</td>
<td>60.9</td>
<td>72.5</td>
<td>60.7</td>
<td>32.2</td>
<td>16.0</td>
</tr>
<tr>
<td>Eggs and Dairy Products</td>
<td>6.3</td>
<td>38.9</td>
<td>23.7</td>
<td>25.3</td>
<td>24.7</td>
<td>22.1</td>
<td>19.5</td>
<td>12.8</td>
<td>6.6</td>
</tr>
<tr>
<td>Animal Fats and Oils</td>
<td>83.8</td>
<td>146.4</td>
<td>116.9</td>
<td>116.8</td>
<td>119.4</td>
<td>124.1</td>
<td>87.9</td>
<td>60.6</td>
<td>37.9</td>
</tr>
<tr>
<td>Hides and Skins</td>
<td>3.2</td>
<td>7.6</td>
<td>9.0</td>
<td>11.5</td>
<td>11.1</td>
<td>6.8</td>
<td>4.9</td>
<td>3.1</td>
<td>2.2</td>
</tr>
<tr>
<td>Bread Grains</td>
<td>107.6</td>
<td>363.9</td>
<td>248.5</td>
<td>367.9</td>
<td>214.5</td>
<td>199.3</td>
<td>160.4</td>
<td>85.8</td>
<td>52.7</td>
</tr>
<tr>
<td>Coarse Grains</td>
<td>36.8</td>
<td>97.0</td>
<td>59.0</td>
<td>65.8</td>
<td>87.6</td>
<td>72.5</td>
<td>21.0</td>
<td>12.6</td>
<td>9.1</td>
</tr>
<tr>
<td>Rice</td>
<td>11.9</td>
<td>14.1</td>
<td>9.7</td>
<td>7.3</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fodders &amp; Feeds</td>
<td>28.1</td>
<td>26.7</td>
<td>27.2</td>
<td>32.9</td>
<td>30.9</td>
<td>32.7</td>
<td>11.1</td>
<td>15.8</td>
<td>11.0</td>
</tr>
<tr>
<td>Vegetables</td>
<td>5.8</td>
<td>16.4</td>
<td>18.7</td>
<td>18.7</td>
<td>18.9</td>
<td>21.4</td>
<td>16.6</td>
<td>10.6</td>
<td>6.3</td>
</tr>
<tr>
<td>Fruits</td>
<td>29.4</td>
<td>81.5</td>
<td>120.8</td>
<td>120.1</td>
<td>127.8</td>
<td>136.0</td>
<td>109.7</td>
<td>108.2</td>
<td>76.5</td>
</tr>
<tr>
<td>Vegetable Oils, Expressed, Oil Seeds and Nuts</td>
<td>21.2</td>
<td>16.5</td>
<td>11.3</td>
<td>13.4</td>
<td>12.7</td>
<td>10.3</td>
<td>9.0</td>
<td>7.0</td>
<td>7.5</td>
</tr>
<tr>
<td>Coffee and Substitutes</td>
<td>7.3</td>
<td>6.5</td>
<td>4.9</td>
<td>6.3</td>
<td>3.5</td>
<td>2.9</td>
<td>2.8</td>
<td>2.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Seeds, except Oil Seeds</td>
<td>2.6</td>
<td>3.8</td>
<td>3.5</td>
<td>3.6</td>
<td>2.7</td>
<td>3.3</td>
<td>3.8</td>
<td>2.3</td>
<td>1.5</td>
</tr>
<tr>
<td>Sugar &amp; Related Products</td>
<td>9.5</td>
<td>48.1</td>
<td>13.9</td>
<td>17.3</td>
<td>16.0</td>
<td>13.3</td>
<td>8.4</td>
<td>5.1</td>
<td>3.1</td>
</tr>
<tr>
<td>Tobacco</td>
<td>44.8</td>
<td>164.6</td>
<td>144.5</td>
<td>139.7</td>
<td>154.5</td>
<td>146.1</td>
<td>145.6</td>
<td>110.8</td>
<td>65.9</td>
</tr>
<tr>
<td>Cotton</td>
<td>551.9</td>
<td>805.0</td>
<td>765.7</td>
<td>826.3</td>
<td>920.0</td>
<td>770.5</td>
<td>496.8</td>
<td>325.7</td>
<td>345.2</td>
</tr>
<tr>
<td>Wool and Hair</td>
<td>1.3</td>
<td>1.6</td>
<td>2.3</td>
<td>2.7</td>
<td>2.5</td>
<td>2.4</td>
<td>1.8</td>
<td>1.2</td>
<td>8.8</td>
</tr>
<tr>
<td>All</td>
<td>19.9</td>
<td>33.6</td>
<td>33.9</td>
<td>35.9</td>
<td>35.5</td>
<td>36.6</td>
<td>26.7</td>
<td>18.5</td>
<td>12.7</td>
</tr>
</tbody>
</table>

Notwithstanding the development of export markets, it is
reasonable to assume that our farming enterprises must find ways and means to stimulate outlets for their surplus products. Great care must be taken that in the accomplishment of this objective the agricultural plant must not be disorganized, for a century of striving to adjust the industry to constantly changing conditions, affected by both domestic and world problems, has evolved a complicated structure that cannot be altered radically without causing profound disturbances in other basic industries that are closely connected with agriculture in the national economy.

The productive farm acreage of the United States has been concentrated on the raising of seven export crops, namely, cotton, wheat, tobacco, rice, barley, rye and corn. The total crop acreage devoted to these exports varied from a maximum of 30,202,000 acres, or 21.7 per cent, in 1921, to a minimum of 47,272,000 acres in 1930. The average acreage for the period was 53,902,000 acres, or 16.4 per cent. One acre of every six in crops was, therefore, required for export purposes. The percentage of total United States acreage required for net exports of seven crops is shown below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Acreage Required for Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1920</td>
<td>18.6</td>
</tr>
<tr>
<td>1921</td>
<td>21.7</td>
</tr>
<tr>
<td>1922</td>
<td>15.9</td>
</tr>
<tr>
<td>1923</td>
<td>15.0</td>
</tr>
<tr>
<td>1924</td>
<td>19.7</td>
</tr>
<tr>
<td>1925</td>
<td>13.1</td>
</tr>
<tr>
<td>1926</td>
<td>15.0</td>
</tr>
<tr>
<td>1927</td>
<td>15.8</td>
</tr>
<tr>
<td>1928</td>
<td>14.7</td>
</tr>
<tr>
<td>1929</td>
<td>13.4</td>
</tr>
<tr>
<td>1930</td>
<td>13.1</td>
</tr>
</tbody>
</table>

To meet the changing conditions it would appear that a drastic reduction of acreage should be initiated to conform to domestic requirements. Such an objective is difficult to achieve, in view of the fact that it means eliminating one-sixth or one-seventh of the total output. But in addition there are even greater obstacles. In the process of crop reduction it would be necessary to reduce to acreage: cotton one-half; tobacco, one-third; wheat, one-fifth; rice, one-fifth; and corn, from 14 per cent to 9.2 per cent.\(^1\)

It does not seem likely, in view of the foregoing data, that the agricultural structure will submit to radical alterations. Should this be attempted, it might so disorganize the economy that interdependent elements would suffer grievously. From what has been gleaned it may be concluded that export markets at present are vitally important to American agriculture; that United States will continue to export such products as cotton, tobacco, pork and lard, wheat and rice; and that farmers, in general, will do everything in their power to maintain their production and distribution facilities.\(^2\)

It is becoming increasingly apparent that many factors which have developed within the past five years are tending

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2. Ibid., p. 87
toward a condition approaching economic isolation. Among these disturbing elements can be mentioned (1) an interrupted succession of trade restrictions; (2) the irrational attempts to confine the remnants of foreign trade within the compass of barter and clearing arrangements; (3) various government debt defaults; and (4) attempts to develop new and cheaper sources of foodstuffs and raw materials in foreign markets to supply a strong base for home industry. In almost all countries, economic nationalism has become a fetish. Entire populations are being imbued with a patriotic fervor to prefer home products to those of foreign nations, irrespective of the element of superiority.

This educational process has resulted in the restriction of economic intercourse between nations, so that commerce is reflected in the barest necessities only. Since nations that cannot sell freely, by the same token, cannot buy freely, the tendency is that the standard of living is reduced greatly. Irrespective of the foregoing factors, foreign trade is of major importance in the national economy of the United States. The importation of goods which we need, and which we cannot produce efficiently, adds to our comfort and health. Also certain types of imports are es-

1. Factors Affecting Foreign Trade Policy, Department of Commerce, Bureau of Foreign and Domestic Commerce, p. 3. Washington, D. C.
essential for the national defense. A good export market utilizes approximately 10 per cent of our production of movable goods and provides a large amount of employment and purchasing power. If we as a people are to maintain an uninterrupted flow of the national economy, if we are to provide the means for the interchange of products of industry and agriculture, a flourishing export market must again be developed. This theme is further substantiated by the fact that in 1931, 1,750,000 agricultural workers were engaged in occupations whose existence was only made possible by export markets. 1

Those who minimize the importance of expanding exports little realize the relationship between a flourishing export market and internal prosperity. Our highly developed industrialism has evolved intensive specialization together with mass production. This enormous productive capacity needs unrestricted world markets in order that its output may be sold. The greater the volume of sales, the lower the selling costs drop. A steady flow of manufactured goods to other countries means continuous employment for additional millions of industrial workers. It also means a greatly increased use of raw materials. Both of these factors are of tremendous importance to the agricultural industry, for

the increased use of raw materials and expanding purchasing power of the masses mean a greater consumption of farm products, improved price conditions and returning prosperity for the farmers.

The United States, for many reasons, is opposed to the policy of economic isolation. We are not only a leading agricultural nation, but a principal exporting country as well. The American farmer, even if he were so inclined, could not follow in the path of economic isolation. The very nature of his plant is such that he produces a surplus and unless he sells that surplus at a fair market price, he stands to suffer considerable losses. For these reasons a healthy export market is essential, and this he must obtain in the open competition of world markets. In order to obtain a portion of these markets, he must overcome the serious handicaps of higher land and labor costs, higher freight rates and lower yields per acre.1

The factors which determine when our export markets will regain proportions approximating those of 1929 are so complicated and variable that they are only to be considered in the light of careful analysis and accurate knowledge. First, it is necessary that there be a return of stable conditions in Europe, and, secondly, foreign countries must

show a marked rise in their respective populations. Thirdly the tariff question is so indissolubly linked with American agricultural prosperity that a brief outline of its historical position is here attempted.

After the War of 1812, the influx of English cotton and woolen goods into the United States all but ruined our infant textile industry. This condition resulted in the tariff of 1816 which placed a 25 per cent duty on English imports. This duty proved so helpful that it carried the American textile industry through the panic of 1818-19. But as competitive conditions, due to inventive processes and evolutionary changes became more intense, the business interests called on the government for additional protection. In 1832, Congress passed a tariff act which organized and systematized the protective system.

Because of Southern agitation and objections, a compromise tariff act was passed the following year. This act scaled down all duties over 20 per cent by one-tenth of the excess every two years until 1842, when the remaining excess over 20 per cent should be dropped. In 1846, another tariff bill was passed which reduced duties to about 30 per cent and moderated the application of the protective principle. Apart from a slight reduction of duties in 1857,

2. Ibid., p. 300.
this bill remained in force until 1861.¹

This year 1861 inaugurated the second period in the tariff history of the United States, when the Morrill Tariff Act was passed by the Republican Party. From then on and all through the Civil War, duties were steadily advanced. The motives which prompted these raises in rates were to make up for the loss of internal taxes and to obtain added revenue to conduct the war. But basically the main reason was to protect adequately American Industry. The close of the war in 1865 left the United States with a number of taxes on both imported and domestic products that were not only excessively high but also very complicated.²

During the next decade the political theory was to afford the domestic economy the highest protection possible. In 1870 a slight reversion from the previous attitude was evinced when the duties were reduced on tea, coffee and sugar. This was followed by the Tariff of 1872 when the Republican Congress consented to a reduction of 10 per cent on general imports. The succeeding House having been elected with a majority of Democrats, the Republican Congress on the eve of relinquishing their power (March 3, 1875), repealed the Act of 1872, and in-

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creased the duties on molasses and sugar.\(^1\)

In 1883, duties were again increased on those articles which were imported in large volume, i.e., certain woolen goods and on about two-thirds of the imported cotton goods.\(^2\)

The McKinley Tariff Act of Oct. 1, 1890, contained provisions that extended protection to a wider portion of American industry. Some of these features were: the addition of agricultural products to the protected articles; the extension of the free list, particularly the inclusion of raw sugar, which had been bringing in $50,000,000 annually, and the raising of duties to almost a 100 per cent on certain articles of general consumption which could be produced at home.\(^3\)

On July 24, 1897, a special session of Congress passed the Dingley protective tariff under which a treasury deficit was soon turned into a surplus. In this Act many articles such as lumber and wool, which had previously been placed on the free list in the Tariff Act of 1894, were now made dutiable. Again, the Act raised duties to their highest point, including such items as petroleum and sugar.\(^4\)

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2. Ibid., Vol. 22, p.820
3. Ibid., Vol. 22, p.823
4. Ibid., Vol. 22, p.825.
The Payne-Aldrich Tariff of August 5, 1909, created a permanent court of customs appeal, together with a tariff board. The rates were similar to that of its predecessor except that there were duty increases on cotton and silk manufactures.¹

In 1913, the new Democratic administration supplanted the "cost of production" duties of the 1909 law with schedules designed to secure more competition between American and foreign producers. There was also a reduction in rates on many manufactured articles, notably textiles, and the free list was extended to include some important raw materials and foodstuffs.

With the return of the Republican Party to power in 1921, an emergency Act was passed at once to be effective until a thorough tariff revision could be effected. The new tariff Act of 1922 extended upward the revision of rates, but included a flexible provision which gave the President power to increase or decrease rates by not more than 50 per cent of the statutory amount.²

For many decades the farmers had protested that the principle of a high protective tariff was inequitable because it leaned too much in favor of manufactures without extending the same benefits to agriculture. The result of the agitation was the Hawley-Smoot Tariff which became

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effective on June 17, 1930. The outstanding features of this Act, which was passed, largely, through the influence of President Hoover, are the revisions of the existing rates designed to react favorably on agriculture. Over one-third of the 3,000 items were revised upward, making the average effective duty about 16 per cent. Protests against what were regarded as excessive increases were received from more than 30 foreign countries accompanied by threats of retaliation.  

In order that farming enterprise might receive those benefits which were intended by the latest tariff revisions, agricultural commodities were classified into three groups: (1) Dairy and poultry products, oil seeds, vegetable products, hides and skins produced exclusively for domestic consumption. (2) Products of which there was a surplus in excess of domestic needs, such as corn, cotton, pork, beef, tobacco and rice. (3) Products not raised in sufficient volume to supply domestic needs or not produced at all, such as sugar, coffee, wool, flaxseed, cocoa, tea, rubber, silk, uncommon citrus fruits, and certain vegetables.

Since no scarcity exists in group one, and since production equals demand, tariffs have not produced the desired

effect of raising prices. Because of surpluses, Group
two is not affected by the tariff although it may create an
embargo. Tariff revision is soon reflected in Group three
by variable prices.

Continuing the analysis, the number of farmers en-
gaged in raising commodities which are designed for foreign
consumption is small in comparison with those who supply
home markets. Mainly, the beet-sugar growers and the sheep-
raisers are affected, but they are few in numbers and the
only group of industrialized and corporation farmers in the
United States.¹ Foreign dairy production is exceeding
that of this country, but high tariff rates are discourag-
ing its importation.²

The effects of tariffs on agricultural products, be-
cause of surpluses, are negative as price-maintenance devices.
Natural economic fluctuations force prices to general world
levels. On the other hand, in the case of manufactures, the
tariff achieves its objective, because its benefits are con-
centrated and, in certain cases, it is of considerable magni-
tude. However, its burden is spread so widely over industry
and agriculture that individually it is hardly noticeable.

Despite the many attempts which have been made in
recent years to enable the farmer to realize a greater pro-
portion of those tariff benefits which redound to manufactur-
ing industry, the results are still poorly balanced because

of inherent defects within the economic structure of agriculture itself. Many schemes have been tried in the past decade to ameliorate, to some extent, the farmer's crushing burden. Among them are the voluntary domestic allotment plan, the equalization fee, export debenture plan and the other similar devices. These will be taken up in their proper order.

There are ample precedents of the past which lead one to believe that depressed export markets may be revived in the near future. Three decades ago Algeria bought about $65,000,000 worth of products annually. Today its imports average about $200,000,000 yearly in which American exporters participate to a considerable extent. Similar possibilities exist in Asia, Africa, the Malay Archipelago, and in the interior of South America. The reviving of the export markets depends largely on the traditional foresight and initiative of American enterprise.

Agriculture and Finance.

The various functions of banking are inextricably bound up with the basic requirements of agriculture. This is so pronouncedly a fact in the great majority of farming communities that when there is a period of uninterrupted well-being, the banks enjoy a few years of prosperity. When the decline begins with the farmers, the banks are simul-

1. Factors affecting Foreign Trade Policy, Department of Commerce, Bureau of Foreign and Domestic Commerce, p.15, April, 1935, Washington, D.C.
taneously affected and when conditions become increasingly worse, numerous institutions find themselves caught with non-negotiable paper which eventually forces them to suspend operations.

Farmers, as a rule, possess very little ready cash. Their capital is represented by land, buildings, machinery, and livestock, supplemented by nature and their unremitting toil. Money is always needed at certain periods of the year for planting, cultivating and harvesting. Additional machinery, home repairs, farm improvements and unexpected emergencies require capital. Local country banks, until recent years, furnished the funds with which the farmer carried on his operations and supplied his immediate wants. When low prices, high rates of interest and inability of the farmer to meet his financial obligations forced thousands of rural banks to suspend operations, the various states and the Federal Government devised ways and means whereby the agricultural industry could continue to function. Most of these benefits took the form of credit extension, without which tens of thousands of farmers would have found themselves penniless.

In the production and marketing of crops, the farmers use short-term or collateral credit, which is usually obtained through commercial banks, yet there have been occasions when many farmers, especially in the cotton-growing states, found it impossible to receive credit from their local institutions and were forced to rely upon merchants
for their necessities, a method both expensive and unsatisfactory. Since the depression, wherever the supply of local bank credit has proved insufficient, the Federal Reserve system, as well as other banking organizations instituted under the auspices of the National Government, has endeavored to make up the deficiency by rediscounting the negotiable paper of the member banks, which in turn extend to the farmers the necessary loans, or by making credit advances themselves directly to the farmers.

Lax state laws and the passage of the Act of March 14, 1900 reducing the minimum capitalization of national banks from $50,000 to $25,000 facilitated the organization of thousands of small banks in small towns, particularly in agricultural sections throughout the country; while rising prices and increasing farm prosperity made it possible for these banks to thrive. In rural communities the whole structure of local credit is based almost entirely on the earning power of the farm industry. This dependency, moreover, has a dual aspect. Rural banking was dependent upon a healthy agriculture, not only so that farmers could deposit their yearly profits in the local bank and thus concentrate the savings of thousands of farmers for loaning to other borrowing farmers, but it also relied upon a prosperous condition in agriculture to insure a repayment of the

loans made and a guarantee that banking commitments would not become "frozen".

After the close of the World War, with the removal of artificial price protection by the government and the resulting collapse of commodity prices, the renewal of foreign agricultural production and the decline in our exports of foodstuffs and raw materials to Europe, the agricultural depression set in. Increasingly unfavorable credit conditions due to the combined effect of declining prices and of heavy borrowings on real estate, livestock, and growing crops, together with operating losses, seriously impaired deposit flow from the farm areas to these small country banks. Funds which ordinarily sought deposit in these small rural banks moved to the industrial areas for investments in the booming stock market - industrial or public utility bonds or in urban real estate. No declaration of policy or action on the part of the Federal Reserve Board could reverse the direction of the current.

During the years of industrial prosperity, from 1921 to 1929, before the depression had spread from agriculture to industry, bank failures, due to a drying-up of deposits and a freezing-up of loans and investments, had nevertheless been heavy in the farming sections of the nation. After the depression affected the economy as a whole, failure of banks in rural areas rose to new high levels.

The following table indicates the importance which agricultural healthiness had for banking. Note particularly the extraordinary increase in the number of suspensions from 1921, the year in which the agricultural depression set in.¹

### Bank Suspensions 1916 - 1932

<table>
<thead>
<tr>
<th>Year</th>
<th>All Banks</th>
<th>National Banks</th>
<th>State Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1916</td>
<td>56</td>
<td>15</td>
<td>29</td>
</tr>
<tr>
<td>1917</td>
<td>41</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>1918</td>
<td>28</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>1919</td>
<td>44</td>
<td>2</td>
<td>41</td>
</tr>
<tr>
<td>1920</td>
<td>47</td>
<td>3</td>
<td>35</td>
</tr>
<tr>
<td>1921</td>
<td>356</td>
<td>20</td>
<td>302</td>
</tr>
<tr>
<td>1922</td>
<td>465</td>
<td>42</td>
<td>297</td>
</tr>
<tr>
<td>1923</td>
<td>374</td>
<td>48</td>
<td>287</td>
</tr>
<tr>
<td>1924</td>
<td>392</td>
<td>52</td>
<td>260</td>
</tr>
<tr>
<td>1925</td>
<td>303</td>
<td>54</td>
<td>246</td>
</tr>
<tr>
<td>1926</td>
<td>638</td>
<td>95</td>
<td>517</td>
</tr>
<tr>
<td>1927</td>
<td>1013</td>
<td>143</td>
<td>819</td>
</tr>
<tr>
<td>1928</td>
<td>505</td>
<td>47</td>
<td>427</td>
</tr>
<tr>
<td>1929</td>
<td>576</td>
<td>64</td>
<td>446</td>
</tr>
<tr>
<td>1930</td>
<td>405</td>
<td>78</td>
<td>603</td>
</tr>
<tr>
<td>1931</td>
<td>1555</td>
<td>229</td>
<td>1258</td>
</tr>
<tr>
<td>1932</td>
<td>2430</td>
<td>458</td>
<td>1892</td>
</tr>
</tbody>
</table>

The capital involved in these 13,381 banks closed to the public on account of financial difficulties by order of the supervising authorities or directors of the banks was $631,318,000. Of this amount $476,948,000 was capital in state banks. The deposits in these banks totalled $4,911,740,000 of which $3,643,000,000 was in country banks.

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales</th>
<th>Costs</th>
<th>Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>150</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>2021</td>
<td>160</td>
<td>55</td>
<td>105</td>
</tr>
<tr>
<td>2022</td>
<td>170</td>
<td>60</td>
<td>110</td>
</tr>
<tr>
<td>2023</td>
<td>180</td>
<td>65</td>
<td>115</td>
</tr>
<tr>
<td>2024</td>
<td>190</td>
<td>70</td>
<td>120</td>
</tr>
</tbody>
</table>

Note: All figures are in thousands.
The geographical distribution of bank suspensions during the eleven and one-half years ended June 30, 1932 further emphasizes the effect of the agricultural decline upon the banking structure.¹

<table>
<thead>
<tr>
<th>State Bank</th>
<th>National Bank</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>New England States</td>
<td>60</td>
<td>12</td>
</tr>
<tr>
<td>Eastern States</td>
<td>272</td>
<td>137</td>
</tr>
<tr>
<td>Southern States</td>
<td>2430</td>
<td>365</td>
</tr>
<tr>
<td>Middle Western States</td>
<td>3180</td>
<td>455</td>
</tr>
<tr>
<td>Western States</td>
<td>2330</td>
<td>421</td>
</tr>
<tr>
<td>Pacific States</td>
<td>329</td>
<td>112</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8601</strong></td>
<td><strong>1502</strong></td>
</tr>
</tbody>
</table>

The foundation of farm financing was practically washed away by the depression. Fully 67% of the production credit used in owner-operated farms was supplied by these locally owned banks. Merchants and dealers supplied 10%. The remaining 23% is unaccounted for, probably from agricultural credit corporations.²

In twenty leading agricultural states the four-year period ending February 1933 saw a decline of more than 50% in the net demand deposits of member banks in the Federal Reserve System in cities and towns of less than 15,000 population.³ But this does not give the complete picture of the debacle to banking due to depressed agricultural conditions. After the general bank suspension of 1933 more than 3000 banks mostly in rural areas failed to open, or opened under

restriction. So vitally necessary, however, is the use of credit to farming operations today that the government itself through regional agricultural credit associations, production credit associations, banks for cooperatives and emergency crop loans, has reinforced the weakened system of private credit with one effectively supplied with a guarantee of Federal funds and support.

Agriculture has, furthermore, linked itself indispensably with the financial element in the national economy in another way. Since 1910, with the growth of a heavy agricultural mortgage indebtedness, private capital has found a source of lucrative investment in farm mortgages.

During the years of rising prices before 1920 all agencies participated in the increased lendings on farm land security. But with the transition from prosperity to depression in agriculture came also changes in the amounts and proportions of farm mortgages held by the various financial institutions. Commercial banks were the first to show a decline in the mortgages held. Loans held by insurance companies, the Federal Land Banks, and the Joint Stock Land Banks continued to increase for a number of years, partly because of loans taken over from commercial banks and individuals. In 1927 the holdings of Joint Stock Land Banks began to decline and in 1928 insurance company holdings also showed a reduction.¹

¹. O. E. Baker, Compiler, A Graphic Summary of American Agriculture Based Largely on the Census, United States Department of Agriculture, Miscellaneous Publication #105, Issued May, 1931.
The largest proportion of the total farm mortgages, amounting to somewhat more than $9,000,000,000 are held by insurance companies. Commercial banks are not heavily involved, having reduced their total farm mortgage loans to 10% of the total from about nearly twice as much in the decade prior to 1928. With the change of the economic status of agriculture there has been a noticeable tendency for private participation in farm mortgage lending to decline and for governmental loaning to be substituted in its place. The following table shows the declining percentage which the investments of insurance companies in farm mortgages hold in proportion to their total investments.2

<table>
<thead>
<tr>
<th>Year</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1925</td>
<td>17.7</td>
</tr>
<tr>
<td>1926</td>
<td>16.5</td>
</tr>
<tr>
<td>1927</td>
<td>15.0</td>
</tr>
<tr>
<td>1928</td>
<td>13.3</td>
</tr>
<tr>
<td>1929</td>
<td>12.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1930</td>
<td>10.9</td>
</tr>
<tr>
<td>1931</td>
<td>9.9</td>
</tr>
<tr>
<td>1932</td>
<td>8.9</td>
</tr>
<tr>
<td>1933</td>
<td>7.9</td>
</tr>
</tbody>
</table>

On the other hand, whereas governmental agencies held but 12.1% of all farm mortgages in 1928, it is estimated that they hold between 50% and 60% of the total now, the result of emergency refinancing.

Another tie that binds agriculture to the financial element is found in the field of insurance. Until a few years ago the only form of insurance to protect growing crops which was available to agriculture was hail insurance. That the

farmer is subject to many hazards from which the banker, tradesman and manufacturer are comparatively immune, is conceded by many insurance companies who now issue policies against floods, tornadoes, frost and drought, in addition to that of hail.¹

Farmers' cooperative movements based on the mutual plan have been quite successful in promoting fire insurance companies. Two thousand companies were in existence a few years ago, carrying a total volume of risks amounting to $8,000,000,000. The East and the Middle West have experienced the greatest development in fire insurance. The agricultural South has been much slower in taking advantage of insurance benefits largely because of tenure and race conditions, together with inadequate state laws.²

Agriculture and Transportation.

In 1929, approximately 13 per cent of the freight handled by the country's class I railroads consisted of agricultural products, livestock, animal products and farm machinery from which was obtained 23 per cent of the total freight revenue. In 1932, agricultural traffic supplied 13 per cent of the volume of railway freight and yielded 30 per cent of the freight revenue. The percentages for 1934 average approximately the same as for 1932.³

Of the total registration of automobiles and trucks which the 1930 census revealed, 4,135,000 of the former and 900,000 of the latter were utilized by farmers, or 28 per cent and 27 per cent, respectively. In 1930, the combined percentage of automobiles and trucks was 19 per cent contrasted with 30 per cent in 1919. The marked decrease can be attributed to a diminution in farm purchasing power. Of the total number of farms, in 1930, 2,600,000 were without automobiles, and 57 per cent, or about 5,000,000 farms, were without trucks.  

Automobile registration in the United States for 1932 indicates a greater than average decrease in the agricultural sections. In the accompanying table for 1932, which is divided into basic geographic divisions, automobile registrations are indicated, together with total amount gallons of gasoline used. 

<table>
<thead>
<tr>
<th>Section</th>
<th>Auto. Registr.</th>
<th>Gasoline Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. In Thousands</td>
<td>% Change</td>
</tr>
<tr>
<td>New England</td>
<td>1,634.1</td>
<td>-4.3</td>
</tr>
<tr>
<td>East. Manufacturing</td>
<td>5,356.8</td>
<td>-3.2</td>
</tr>
<tr>
<td>Central</td>
<td>5,709.3</td>
<td>-7.5</td>
</tr>
<tr>
<td>W. Central Agric.</td>
<td>3,276.8</td>
<td>-8.0</td>
</tr>
<tr>
<td>S. E. Agric.</td>
<td>2,454.7</td>
<td>-10.3</td>
</tr>
<tr>
<td>S. W. Agric.</td>
<td>1,998.9</td>
<td>-10.1</td>
</tr>
<tr>
<td>Rocky Mount</td>
<td>849.9</td>
<td>9.3</td>
</tr>
<tr>
<td>Pacific</td>
<td>2,676.9</td>
<td>2.4</td>
</tr>
<tr>
<td>Total U.S.</td>
<td>24,136.9</td>
<td>6.6</td>
</tr>
</tbody>
</table>

In urban centers the automobile is, in the main, a pleasure vehicle. Conversely, on the average farm it is first a vital necessity and, secondly, an instrument of pleasure. As the agricultural industry experiences the beneficial effects of returning prosperity, millions of motor vehicles will be purchased, for besides its many uses, it is indispensable because of the vast distances between the farm and its source of supply and distribution, and the scarcity of other means of transportation.¹

Various systems of canals connecting the principal rivers and thence passageways to the oceans have been of immeasurable benefit to American agriculture in moving its products. The Welland Canal is but one illustration of successive progressive steps in American waterways. In 1824, its depth was 8 feet. It was increased to 9 feet in 1842; to 10 feet in 1853; to 12 feet in 1872; to 14 feet in 1897. The new project contemplates a canal 25 miles long and 30 feet deep, large enough for the passage of ocean-going vessels. The Saint Lawrence River project is the joint result of a treaty between Canada and the United States, confirmed in 1932. When completed it will be possible for the Agricultural West to ship its products direct to Europe by means of the Great Lakes and the Saint Lawrence River.²

The Mississippi River, whose total length is 2,477 miles is navigable from Minneapolis to its mouth in the Gulf of Mexico, 1950 miles, in which distance there is a fall at low-water stage, of 685 feet. From the Passes to Baton Rouge the river is open for navigation throughout the year; between Baton Rouge and the mouth of the Ohio, about eleven months, while above that point, about eight, depending on the seasonal variations. During the World War the Government established a barge line as an emergency measure to relieve railroad congestion. It proved a success and has been followed by the establishment of other lines as private and common carriers, and by steady increase in volume of traffic upon the lower river.\(^1\) The following statistics reflect downbound traffic for the years 1932 and 1933.\(^2\)

**TABLE XXV**

(In Short Tons of 2,000 Pounds)

<table>
<thead>
<tr>
<th></th>
<th>Between Ohio and Illinois Rivers</th>
<th>Cairo to Memphis</th>
<th>Memphis to Vicksburg</th>
<th>Vicksburg to New Orleans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1932</td>
<td>1933</td>
<td>1932</td>
<td>1933</td>
</tr>
<tr>
<td>Wheat</td>
<td>31,241</td>
<td>21,497</td>
<td>29,333</td>
<td>10,464</td>
</tr>
<tr>
<td>Corn</td>
<td>131,353</td>
<td>154,072</td>
<td>157,303</td>
<td>141,416</td>
</tr>
<tr>
<td>Fruits &amp; Vegetables (Canned)</td>
<td>32,104</td>
<td>13,193</td>
<td>75,459</td>
<td>42,627</td>
</tr>
<tr>
<td>Tobacco</td>
<td>25</td>
<td>766</td>
<td>9,440</td>
<td>8,781</td>
</tr>
<tr>
<td>Cotton (Raw)</td>
<td>42</td>
<td>......</td>
<td>23,795</td>
<td>14,826</td>
</tr>
</tbody>
</table>

CHAPTER IV

THE CONDITION OF AGRICULTURE

The Low Standard of Living.

It has always been generally known that the income of the average farmer was below the recognized American standard of living. Even in the so-called prosperous era there were millions of farmers whose incomes barely met the minimum necessities of sustaining existence. In 1928 the United States Department of Agriculture published an article summarizing the results of a study of 14,000 farm families over a period of four years, which showed that in order for a farm family of five to maintain themselves in health and decency, they must have an income of $1,800 a year, of which $1,200 should be in cash and $600 in farm products.¹

After the World War and prior to 1930, a typical farm family earning less than $1,800 a year was on the border line of poverty. The extreme poverty groups were reflected in families whose incomes ranged from $1,400 per year and less. The following table represents the earning power of farm families between the years 1919 and 1927, inclusive. The figures are illuminating as to the disparity between the incomes of industrial groups and those who supply the nation with food and raw materials.

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TABLE XXIII

INCOME OF FARM FAMILIES

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Income in Current Dollars (Millions)</th>
<th>Income of Farmer and His Family in Current Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1919</td>
<td>7,231</td>
<td>1,228</td>
</tr>
<tr>
<td>1920</td>
<td>10,429</td>
<td>1,034</td>
</tr>
<tr>
<td>1921</td>
<td>755</td>
<td>118</td>
</tr>
<tr>
<td>1922</td>
<td>5,400</td>
<td>361</td>
</tr>
<tr>
<td>1923</td>
<td>4,911</td>
<td>780</td>
</tr>
<tr>
<td>1924</td>
<td>3,144</td>
<td>496</td>
</tr>
<tr>
<td>1925</td>
<td>2,551</td>
<td>261</td>
</tr>
<tr>
<td>1926</td>
<td>0,265</td>
<td>1,010</td>
</tr>
<tr>
<td>1927</td>
<td>7,310</td>
<td>1,275</td>
</tr>
</tbody>
</table>

The above figures indicate that only in 1920 was the average income above the extreme-poverty level. For the nine-year period the average was $740. Of the 14,000 families studied, 50 per cent had cash incomes under $500 per year, and 75 per cent earned less than the $1,200 in cash necessary for the minimum of health and decency.

Importance of Increased Farm Incomes.

That the increased consuming power of the American people has a vital bearing on the well-being of the agricultural classes, is the conclusion reached by the Brookings


Institution and published in their fact-finding volume, "America's Capacity to Produce" which endeavors to show how this desirable objective could be realized. One of the powerful points made was that if the 6,000,000 families having incomes in 1929 of less than $1,000 were to have those incomes increased from an average of $650 to about $1,150, their consumptive expenditures would assume a pattern similar to that prevailing among the 5,000,000 odd families who were already in the higher groups. Theoretically, the expansion of consumptive demand resulting from the increase of incomes would be indicated as follows:

**TABLE XXIV**

**EFFECT OF INCREASED FAMILY INCOMES UPON CONSUMPTIVE EXPENDITURES**

<table>
<thead>
<tr>
<th>Family Income (in Dollars)</th>
<th>Actual Incomes in 1929 (in Millions of Dollars)</th>
<th>Increased Incomes in 1929 (in Dollars)</th>
<th>Percentage Increase in Consumptive Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 1,000</td>
<td>4,065</td>
<td>6,634</td>
<td>63</td>
</tr>
<tr>
<td>1,000 to 1,500</td>
<td>7,025</td>
<td>10,205</td>
<td>45</td>
</tr>
<tr>
<td>1,500 to 2,000</td>
<td>7,538</td>
<td>10,623</td>
<td>44</td>
</tr>
<tr>
<td>2,000 to 3,000</td>
<td>11,096</td>
<td>14,904</td>
<td>34</td>
</tr>
<tr>
<td>3,000 to 4,000</td>
<td>7,069</td>
<td>8,913</td>
<td>26</td>
</tr>
<tr>
<td>4,000 to 5,000</td>
<td>4,430</td>
<td>5,247</td>
<td>17</td>
</tr>
<tr>
<td>5,000 and over</td>
<td>20,704</td>
<td>20,704</td>
<td>...</td>
</tr>
</tbody>
</table>

All Classes 70,377 77,430 15,453 25

1. "America's Capacity to Produce" and "America's Capacity to Consume", a Digest of the Studies made by the Brookings Institution, Washington, D. C., under a grant from the Maurice and Laura Falk Foundation of Pittsburgh, Pa., and published in 1933 and 1934, p. 54.

2. Ibid., p. 54
This moderate stepping up of family incomes would result in increased consumptive expenditures amounting to about 15 billion dollars, and, if accompanied by corresponding changes in the incomes of unattached individuals, the total increase in consumptive expenditures would amount to nearly $19,000,000,000.¹

The effect of these assumed changes in family incomes upon family expenditures for major types of consumptive goods and services would be about as follows: food and non-alcoholic beverages, 3.1 billion dollars, or 15 per cent; shelter and home maintenance, 4.7 billion, or 26 per cent; attire and adornment, 2.2 billion, or 27 per cent; and other consumers' goods and services, 5.4 billion, or 29 per cent.

With the entire population having the means to afford a satisfying variety of foods, and an increase in production calculated at from 70 to 80 per cent, due to the increased purchasing power, a literal renaissance of prosperity would be visited upon every section of American agriculture. The effect of such a program might have such profound economic consequences that it would usher in an era of good times that would exceed in bounty all of the preceding eras.

The Problem of Export Control.

The multifarious ramifications of agriculture encompass so wide a field that it becomes necessary to break them down into simple elements in order that the various sections may help to reveal a true picture of the actual conditions. In 1930, certain elements advocated the export debenture plan by which a bounty was to be given to the farmer for every bushel of foodstuffs he exported. This would enable him to undersell in those countries where no bounties existed and still maintain a normal profit. That our country was opposed to unfair competition is proved by section 303 of the Tariff Law of June 17, 1930, re-enacted from the previous law, which provided that whenever any country gave a bounty or subsidy upon the export of any merchandise or product, the United States should levy a countervailing duty as large as the bounty, in addition to the tariff on the commodity. Enlightened economic opinion was opposed to the export-debenture plan on the ground that it would stir up a hornet's nest of hatred and retaliation that would react disastrously on our world markets.

In speaking of artificial-price controls, Herbert Hoover, when Secretary of Commerce said: "The problem should be met on the ground of what, in the long run, will produce good will and prosperity to the entire world, for no
single nation can dissociate itself and its prosperity from the prosperity and good will of the world.  

Declining Position in World Trade.

Declining world markets served as a further warning against adopting the foregoing plan. The Department of Commerce final figures for 1931 showed the United States during the year lost a third of its foreign trade. The loss was larger in exports than in imports. Exports fell off $1,419,432,043 from the $3,843,181,282 in 1930, and imports decreased from $3,060,903,439 to $2,089,802,097.

Conditions were further aggravated by the Hawley-Smoot tariff bill which became law on June 17, 1930. According to Mr. Willis C. Hawley, its sponsor, "the bill when enacted into law would not only benefit our own people, but would also enlarge our foreign trade." Subsequent developments demonstrated that the opposite effect had occurred. From 1930 to 1931 there was a definite decline in the value of imports, as follows:

TABLE XXVI

<table>
<thead>
<tr>
<th>Description</th>
<th>1931 Value (%)</th>
<th>1930 Value (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leather</td>
<td>55%</td>
<td></td>
</tr>
<tr>
<td>Agricultural Products</td>
<td>36%</td>
<td></td>
</tr>
<tr>
<td>Wood and Manufactures</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td>Cotton Manufactures</td>
<td>34%</td>
<td></td>
</tr>
<tr>
<td>Earthenware</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td>Chemicals</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>Hides and Skins</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td>Sugar</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Wool &amp; Manufactures</td>
<td>42%</td>
<td></td>
</tr>
<tr>
<td>Total U.S. Imports</td>
<td>32%</td>
<td></td>
</tr>
<tr>
<td>Shoes and Boots</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>Imports of 7 Counties*</td>
<td>26.5%</td>
<td></td>
</tr>
</tbody>
</table>

* France, Germany, Italy, Switzerland, United Kingdom, Canada and the United States.

2. Ibid., Vol. 12, p.24, Feb. 8, 1932.
The following countries were the hardest hit by increased duties:¹

<table>
<thead>
<tr>
<th>Agricultural Products:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina, Canada, Italy,</td>
</tr>
<tr>
<td>Mexico, Spain, Uruguay.</td>
</tr>
<tr>
<td>Wood and manufactures:</td>
</tr>
<tr>
<td>Canada</td>
</tr>
<tr>
<td>Wool and manufactures:</td>
</tr>
<tr>
<td>Argentina, Australia, China,</td>
</tr>
<tr>
<td>New Zealand, United Kingdom</td>
</tr>
<tr>
<td>Shoes and Boots:</td>
</tr>
<tr>
<td>Czechoslovakia, Switzerland,</td>
</tr>
<tr>
<td>United Kingdom</td>
</tr>
<tr>
<td>Leather:</td>
</tr>
<tr>
<td>Canada, France, Germany, United</td>
</tr>
<tr>
<td>Kingdom</td>
</tr>
<tr>
<td>Earthenware:</td>
</tr>
<tr>
<td>Belgium, Germany, Czechoslovakia</td>
</tr>
<tr>
<td>Cotton manufactures:</td>
</tr>
<tr>
<td>Egypt, France, Switzerland,</td>
</tr>
<tr>
<td>United Kingdom</td>
</tr>
<tr>
<td>Sugar:</td>
</tr>
<tr>
<td>Cuba:</td>
</tr>
<tr>
<td>Hides and Skins:</td>
</tr>
<tr>
<td>Argentina, Canada, New Zealand,</td>
</tr>
<tr>
<td>United Kingdom, Uruguay, Germany</td>
</tr>
<tr>
<td>Chemicals:</td>
</tr>
<tr>
<td>Germany:</td>
</tr>
</tbody>
</table>

Effects of Economic Nationalism.

The result of these declines in imports was the creation of retaliatory tariffs by 45 nations against the United States. The records show that American high-duty exports declined in 1931 to a greater extent than either general exports of the United States or the exports of seven leading countries; and that the nations hit hardest by the Hawley-Smoot tariff dealt

equally hard blows to the American export trade.

The following table shows the decline in American exports as far as they are subjected to high duties in foreign countries, 1930 to 1931:

<table>
<thead>
<tr>
<th>Commodity</th>
<th>1930</th>
<th>1931</th>
<th>Decline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton (to United Kingdom)</td>
<td>56%</td>
<td>24%</td>
<td>52%</td>
</tr>
<tr>
<td>Gasoline</td>
<td>56%</td>
<td>40%</td>
<td>16%</td>
</tr>
<tr>
<td>Automobiles</td>
<td>64%</td>
<td>24%</td>
<td>50%</td>
</tr>
<tr>
<td>Grains</td>
<td>54%</td>
<td>3%</td>
<td>51%</td>
</tr>
<tr>
<td>Typewriters, Calculating</td>
<td>45%</td>
<td>5%</td>
<td>40%</td>
</tr>
<tr>
<td>Machines</td>
<td>43%</td>
<td>4%</td>
<td>40%</td>
</tr>
<tr>
<td>Agricultural products in</td>
<td>34%</td>
<td>4%</td>
<td>99%</td>
</tr>
<tr>
<td>general</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Petroleum and products</td>
<td>45%</td>
<td>37%</td>
<td>18%</td>
</tr>
<tr>
<td>*France, Germany, Italy, Italy, Switzerland, United Kingdom, Canada and the United States.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the foregoing, it can be seen that in common with other products of the national economy, the exports of agricultural commodities were practically cut in half, such disastrous conditions in the world markets being directly due to the effects of the Hawley-Smoot Tariff Act.

The Problem of Production Control.

One of the serious problems in 1933 was the agricultural problem of production and how to regulate it. One of the plans formulated and finally adopted was the Voluntary Domestic or Farm Bounty Plan. Briefly, this Plan contemplated en-

tering into agreements with individual farmers to curtail a certain amount of production each year. In return for this curtailment they were to be compensated in the form of a cash bonus. Over $1,000,000,000 was to be raised by putting an excise tax on certain farm products and dividing it as follows: $491,000,000 to hog raisers; $390,000,000 to wheat growers; $160,000,000 to cotton planters; and $31,000,000 to the tobacco raisers. Leading agricultural and industrial authorities who had studied the Plan seemed to be in favor of it. ¹

That overproduction of essential commodities, and especially of farm products, was one of the basic causes that broke the market is no longer open to question among students of economics. First, the war stimulated overproduction; then it was further aggravated by the substitution of the machine for the horse. Chaos resulted from a lack of cooperation between the government on the one hand, and agricultural interests on the other. Cooperation on the part of the Government was transmitted into law on June 16, 1933, when the National Industrial Recovery Act began to function. As President Franklin Roosevelt clearly stated at that time: The immediate purpose of the Act is to put men back to work.

in the largest numbers as quickly as possible. Its ultimate purpose is to plan for a better future." The essence of the cooperation desired was an equilibrium between production, prices, profits, and purchasing power; and it was to penetrate into every element of the National Economy. Historically, this was the first attempt to coordinate government and industry on a large scale since the founding of the Republic. "What shall be done," asked a leading economic authority, "when agricultural prices fall? Shall the government come to the rescue with funds from the treasury? A moderate resort to this medicine has not brought good results. The question is now whether to abandon the drug, or increase the dose. Those who know its bad effects may have reason to regret that they did not loudly proclaim them in due season."1

With the more than 6,000,000 farms in the United States, their surplus products, overdeveloped acreage, and mechanized equipment, their prospects for maintaining a normal economy depend to a great extent on government subsidies. That this condition is unsound and fraught with grave consequences, should the government decide to remove the financial prop, is known to the agricultural economist. That this may come to pass is not likely, for the farmers' livelihood is too closely connected with the country's well-being.

Attempts at Cooperation.

It would, nevertheless, be in the interests of national economic efficiency if farmers could evolve a system of integrated collective action similar to that of industry, railroads and labor (through labor unions), and by their improved collective bargaining position, be an active rather than an inert force with regard to contributing to the internal stability of the economy. Through the farmers' cooperatives and the national marketing system which evolved with the extension of the physical area from coast to coast and the interchange of the products of all regions, it was hoped that some form of unified action in the direction of agricultural production policy could be taken. In fact, the whole bend of governmental influence and exhortation was in this direction.

One hundred years ago no elaborate system of marketing was required in getting farm products from producer to consumer. There were no extensive railroad systems; large cities as we know them today were practically non-existent; and enormous industrial plants were not even a dream. Man usually produced most of his own supplies of food and clothing at home or he obtained them from nearby villages.

Picture the present-day situation. A family in New York City is having its breakfast. The oranges they eat come from California, the cereal for the youngsters is made in a Michigan factory from Iowa corn. The cream for the coffee comes from a dairy center hundreds of miles away,
and the bread is made out of Minneapolis flour which was once North Dakota wheat. In short, all of these various products in order to reach one particular home in New York City required the combined services of the farmer, the local dealer, the railroad, the manufacturer, the wholesaler, the retailer, together with warehousemen, bankers, truckmen, etc. Unless a smoothly running system of cooperation between these various elements is in evidence, waste, confusion, and prohibitive prices to the consumer would be a direct result.¹

Cooperative marketing from the standpoint of the farmer is primarily a business. Individuals who raise different varieties of food realize that the best way in which these products can get to the ultimate consumer is to become a part of an integrated system of distribution which is large enough to tie in with other efficient organizations, all having the same objective - the rapid and economical disposal of merchandise.

Within recent years, cooperative marketing has evolved into specialized classifications. For instance, there are cooperative associations that market exclusively grain, butter and cheese, milk, livestock, fruit and vegetables, cotton, tobacco, wool, poultry and eggs, etc.²

By means of well-planned advertising, many of these cooperatives have greatly multiplied the sales of their products. The orange growers of California have made their type of orange synonymous with "Sunkist"; the Florida orange growers have popularized their product with the name "Sealdsweet". The American Cranberry Exchange cleverly labeled their cranberries "Eatmor", and many other cooperatives have popularized such brands as "Diamond" walnuts; "Sun-Maid" raisins; "Red Star" potatoes, etc. It is only when thousands of farmers become a corporate part of a cooperative organization that large sums of money can be spent to advertise their product, for the entire advertising cost is spread over the total volume of sales, so that pro-rata the expenditures are comparatively low.

Another important advantage of cooperative marketing is the attention which is given to standardization in production, grading, and handling. Certain dairy sections have become famous because the farmers worked together to develop the best breeds of Holsteins, Guernseys, or other types that became exceptionally heavy producers of milk. Northwestern apples became good sellers in eastern states because of special attention that was paid to grading and careful handling. The same results have been attained in developing cheese and milk products which have become nationally famous through the efforts of cooperative agencies.

1. Ibid., x, xi.
The first cooperative venture in prune growing began in 1900 in the Santa Clara Valley, California. The association, which comprised 60 per cent of the prune growers of the valley, erected a cooperative plant that cost $500,000. This venture, because of poor management and ignorance of modern business methods, failed. After 17 years of bitter experience with extremely low prices and inefficient marketing, the individual growers formed the California Prune and Apricot Growers, Inc.1 The cooperative within a short period established connections in 203 cities and moved practically the entire crop at an average of 6 cents per pound.2

In 1922, the organization was converted into a non-capital stock association, and the name was changed to the California Prune and Apricot Growers Association; 3,100 prune growers and 4,700 apricot growers pledged their unqualified support to the venture for a minimum of five years.3

Similar successes were achieved by the Oregon prune growers, who organized with the determination to encourage fruit production; to store, can, preserve, and market products; to stop speculation in fruits, to stabilize crop prices; to develop markets; to increase consumption; to eliminate unnecessary middlemen; to advertise Oregon's

2. Ibid., p.55.
fruit industry; and to stabilize land prices and credits. This organization finally evolved into the North Pacific Cooperative Prune Exchange, whose prime object is that of a selling agency. Nine local units comprise the Exchange which is authorized to make the sales, issue the shipping orders, invoice the products and make periodic distribution of the funds to the locals in proportion to the amount of prunes sold. During the 1926-27 season the Exchange marketed 13,332,097 pounds of prunes for its nine member units.¹

Among many other cooperatives which have been successful in their efforts, are the Eastern Shore of Virginia Produce Exchange which markets close to $10,000,000 worth of produce annually,² the Michigan Potato Growers Exchange with 130 locals whose sales in 1927 amounted to $1,500,000.³

Cooperative Cream-Shipping Associations are found principally in Ohio, Indiana, Kentucky, Missouri, North Dakota and Washington. The cooperative creamery at Fayette, Idaho, disposes of much of its butter in California. These increased sales enable the association to pay 3 cents a pound more for butter fat than had been paid in the past.⁴

1. Ibid., p.57
2. Reports of the Eastern Shore of Virginia Produce Exchange
The Hutchenson Cooperative Creamery Company Association paid 6 cents a pound higher for butter fat in 1921 than the state average price.¹ Because of the economies resulting from the consolidations of shipments, the Minnesota Cooperative Creameries Association, Inc., in 1922, saved more than $200,000.²

The foregoing examples are an indication of what has already been accomplished in the field of Cooperative Marketing. Whenever farmers pool their resources and efforts toward one common goal - the profitable merchandising of their products - success is assured, if the associations will hew to the line of those principles and practices which experience has determined is the best procedure.

This form of cooperative organization is the closest approach to the cartelization of American agriculture. In the citrus-fruit branch of the industry in 1932, 52.4% of the production for the United States was marketed through cooperative organizations. This is probably the best organized branch. In 1932 it was estimated that there were 11,900 associations, including federations, sales agencies, and subsidiaries, with an estimated membership of 3,200,000, transacting a total business in buying and selling of $1,925,000,000.³

1. Herman Steen, Cooperative Marketing, p.145
2. O. B. Jesness, Cooperative Marketing of Farm Products, p.54.
In branches other than the citrus fruit, the extent of cooperative effort is smaller. So while the movement has been valuable as a method of procuring economy in marketing and securing a certain amount of marketing efficiency, in the absence of greater cooperation and more effective organization, but little pressure could be exerted upon the agricultural price level at all tantamount to the prevailing rigidities obtaining in other branches of the economy due to tacit and formal cooperative methods both within and beyond the law.

There seems little doubt that the cooperative associations of the future are destined to be far more successful than those of the present day, for they will be free from the errors and experimentation which are necessarily the lot of the pioneer. In every field of agricultural marketing, cooperatives have uncovered abuses, dishonest practices, and enormous waste of products which have been gradually corrected. From these defects, the cooperatives of the future will be comparatively free. But there is a tremendous room, nevertheless, for further improvement. In 1929 the Department of Commerce estimated that the annual waste from our marketing system (of which agriculture is an integral part) amounted to $11,000,000,000.1 With the true spirit of cooperation and working together to achieve the maximum in production and distribution, cooperative marketing associa-

tions should become an essential link between the grower of food products and the ultimate consumer.

Cooperatives have been the machinery by which the farmer employs his own middlemen to perform efficiently and economically for him the essential marketing services of assembling, grading, processing, packaging, storing, financing and dispersing. Cooperative marketing does not dispense with these services; it performs them for the farmer at cost. Since it does not eliminate middlemen functions, it does not eliminate middlemen. It employs the necessary middlemen on a salary basis and what formerly constituted the profits of these are returned to the farmer in increased prices on the commodity which he sells.¹

This orderly marketing exerts a stabilizing influence on the price level, but even then the share of agricultural products, except perhaps fruits, that is handled by cooperatives is small in proportion to the total. In the nature of things small isolated farm units are not in a position to realize the fullest benefits from cooperative marketing. In the South, particularly, the diversion of the crop from the cooperatives is due to the unfriendly non-member landlords, who divert the cotton of their tenant who is a member, and to time merchants and lien holders who will not permit crops to be marketed through the association. These groups have a profit interest in preventing the organization of any such large-scale marketing organization as is contemplated by the

null
cooperative for besides being creditors of the Southern producers they make a profit from being the marketing agency themselves.¹

But cooperative marketing does little to remedy the crux of the farm problem which is the disparity in the price level. Farmers being geographically separated from each other, subject to the vagaries of bumper crop and drought, the contingencies of competition from a hundred sources, the natural hazards of frost, hail, wind and flood, and unfavorable weather; with a slow turnover of product; and impelled by the rotation of the seasons have been inclined to produce the maximum rather than less and trust to luck for a good year. The result is that farmers are weak in bargaining power.

In organization, however, lies one of the major hopes of agricultural improvement. In the course of the development of our national economic system, large segments have been transferred from the free market where decisions are made by the impersonal impact of supply and demand to the sphere of administrative action. Large organizations, such as industrial and financial corporations, through trade associations, holding companies, voting trusts and similar devices, labor unions, the Interstate Commerce Commission, and various state public utility boards, have been able to make personal

1. Annalist 34:397-8, August 30, 1929.
decisions concerning supply and prices independent of the market. Prices are fixed arbitrarily to insure a profit rather than being left to adjustment by the natural law of supply and demand.

The farmer, on the other hand, maintaining his individualism to the extreme, has trusted to the virtues of a free market and has permitted his prices to be regulated by natural economic laws. He has sold his products in unlimited competition with his brother farmers and has been buying at more or less controlled prices from industries which have predetermined production programs and limited competition. The course of the currents of national income have been diverted from their natural channels. As a result of their lack of control, farmers compared to other entrepreneurs have been receiving a less proportionate share of the national income and other groups a larger share. These shifts in the direction of income flow have seriously interfered with internal economic stability. If agriculture is ever to realize most of the advantages of economic self-determination, strenuous efforts must be made to see that the more than six million farmers and their helpers can cooperate in maintaining an agricultural policy to counter check the adverse influences of the programs of other groups. Experience has illustrated the ineptitude of the farmers themselves for this task. Government, it appears, must fill this role.
PART II

THE GOVERNMENTAL FUNCTION AND AGRICULTURE
CHAPTER V

THE NEED OF GOVERNMENT AID

Natural Threats To Stability of Farm Income.

The very nature of farming includes natural risks or hazards from which the industrial world is comparatively free. In addition, when the farmers are visited by drought, insect pest or frost and their crops are destroyed, the loss is far greater than the labor involved. Every year the American farmers invest in the activity of crop production between eight and nine billion dollars. When a portion of this colossal amount is lost in some particular section, it brings disaster to every section of the community. That the farmers are entitled to some form of financial protection against the destructive forces of nature is keenly realized when the following figures are studied. The average annual damage from all causes to crops in question amounts to the following:

| Crop     | 1,345,600,000 bushels | 301,200,000 " | 414,300,000 " | 74,100,000 " | 10,200,000 " | 7,400,000 " | 164,800,000 " | 296,300,000 " | 20,414,000 bales | 3,731,000,000 " |

Insurance companies must eventually realize that to deny the farmer insurance protection when it is available to industrial enterprise is unjust discrimination. If private companies will not assume this responsibility, then the government will have to render an insurance service which is so desperately needed by most American farmers.\textsuperscript{1}

The Question of National Agricultural Policy.

What should be the policy of the Federal government in adjusting the unbalanced condition in agriculture is the problem to which both lay and political leadership has given profound thought. In the past the government had not hesitated to enter the business of expanding the farming area. Now the problem is to contract it. Farmers must reduce their production to the needs of the home market. But this is not so easy, for its accomplishment means that vast areas of marginal and submarginal lands must be abandoned. Since the farmers' condition is becoming increasingly worse each year notwithstanding that millions have left the farms, since 1920, to go to the cities, is a laissez-faire governmental policy in keeping with the country's well-being? The answer seems to be that the government must render ample assistance to agriculture since the interdependence of industrial enterprise and farming makes prosperity for one without the other impossible.\textsuperscript{2}

\begin{itemize}
\item \textsuperscript{1} V. N. Valgren, \textit{Insurance and the Farm Hazards}, p. 193, 194. \textit{Journal of Land and Public Utility Economics}, April, 1925.
\end{itemize}
State Policies.

A number of states have definite policies by which they regulate agricultural settlement within their boundaries. These policies are classified under three groups: (1) Those that actively encourage settlers; (2) those that protect settlers without necessarily encouraging them; (3) those that control expansion. Wisconsin gives financial aid to private colonizing companies, at the same time keeping a careful check upon their activities. Oregon and Washington extend state aid to irrigation districts, the former guaranteeing the interest on irrigation district bonds for the first five years of the life of the bonds.

Oregon, Minnesota, North Dakota and South Dakota loan state funds directly to settlers under their special rural credit acts. Numerous other safeguards have been adopted to protect the interests of land settlers, i.e., the Michigan Land Certification Law which provides for the classification of land; the Foreign Realty Act of Nebraska which exercises nominal control over foreign real estate within the state. Missouri, Kansas and Oklahoma have legal authority to control the sale of land under their speculative security acts, and 16 states have real estate licensing laws. The object of these various state laws is to protect the interests of those potential farmers who without the benefits of these special statutes might be exploited.1

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State Activities.

Recognition of the special needs of agriculture for long-term credit has also been made by some of the state governments. Several states have passed special laws providing for land mortgages. Outstanding examples are: New York, 1914; Missouri, 1915; Massachusetts, 1915; Wisconsin, 1913; and North Dakota, 1919. Details vary with regard to the operations of these banks but the principles and purposes of supplying the farmer with long-term credit are similar.

Necessity of Federal Aid.

But it is in the national sphere rather than in the localized state zones that government aid to maintain the status of agriculture and preserve the stability of its income has been and still is of first significance. Abandonment of farms, with the ensuing capital loss, declining farm income with its lowered consuming power and consequent reduction in the wages of farm laborers, and the mechanization of agriculture resulting in a lowering of the exchange value of farm products has made intervention by the National Government imperative.

The Census of Agriculture for 1925 disclosed a decrease in the number of farms for the country as a whole for the first time in the history of America. The reduction was 76,703 or 1.2% and was concentrated in the eastern rather
than in the western part of the country. The depression, together with the inability to meet financial obligations, and a subsequent lowering of morale were principal causes of farm abandonments.¹

The gross income of agriculture declined from $13,059,000,000 in 1925-1926 to $12,471,000,000 in 1926-1927, a drop of $588,000,000. From 1925 to 1926, while the total "current" income of the people of United States increased from $86,461,000,000 to $89,682,000,000, a gain of $3,221,000,000, the net income of agriculture decreased from $8,890,000,000 to $8,646,000,000 a drop of $244,000,000. As a result, the share of agriculture dropped from 10.3 per cent in 1925 to 9.6 per cent in 1926, a reduction of seven points.²

While mechanization has gone on steadily throughout the United States, and the reduction in man-power per hour has been marked, the use of motor power is still very unevenly distributed. In Indiana, farming is 82 per cent motorized, while it is only 66 per cent in Illinois. In Oregon, the greatest saving is in ploughing while in Pennsylvania the relative savings between horse power and motor power favor the latter in ploughing and in potato planting.

Displacement of millions of farm laborers forces them into urban centers, and lack of efficient industrial organization makes it difficult to absorb them. ¹

In United States, from 1924 to 1928 inclusive, agricultural wages were well under unskilled wages in manufacturing industries and also well under women's wages in industry. While wages in agriculture surpassed the wages paid in cotton manufacturing in the Southern States, it simply inferred that one extremely low standard was slightly better than another that was miserably lower. Up to 1931, agricultural workers were even worse off than before the World War. Farm wages on October 1, 1930 averaged $5.64 per month, 13 per cent less than on October, 1929. Between October, 1930, and January, 1931, there was a further decline of 12 per cent. In many farming localities conditions were so desperate that laborers were glad to work for board and lodging only. ²

At this period a great industrialist, himself badly affected by the depression, saw the disintegrating effects of widespread wage reductions and warned the leaders of industry against the practice. "Those who are lowering wages", he said, "don't know what they are doing. They are

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hitting the country when she is down. The shortest cut to relief from present conditions is an intensive development of agriculture and manufacture looking to quantity production from the soil.\textsuperscript{1}

In 1930 the United States Department of Agriculture had a balance of about $800,000 which it was authorized to use for seed and fertilizer loans to farmers in Virginia, Missouri, Oklahoma and Alabama. The loans were to be made direct to individual farmers in the above-mentioned states only, because of desperate need and limited funds.\textsuperscript{2} The importance of agriculture in the national economy was emphasized by Alexander Legge, Chairman of the Federal Farm Board, when he said: "A distinct step forward has been made by agriculture in securing recognition of the fact that agriculture as an industry is entitled to the same consideration by the Government as other industries."\textsuperscript{3}

The Agricultural Marketing Act provided a revolving fund of $500,000,000 which made it possible for the Government to extend financial aid to agriculture.\textsuperscript{4} In the last three months of 1930, applications to the twelve Federal Land Banks for long-time, amortized, first farm mortgage loans were 37 per cent greater than for the same period in 1929, and the banks closed during this three-month period,

\begin{thebibliography}{9}
\bibitem{1} Henry Ford, \textit{Commercial and Financial Chronicle}, 130: 3820-1, May 31, 1930.
\bibitem{3} Ibid., 131:1502, September 6, 1930
\bibitem{4} Ibid., 131:3969-72, December 20, 1930.
\end{thebibliography}
in 1930, 3230 loans for an aggregate amount of $12,741,700, which compares with 2,966 loans in an aggregate amount of $10,420,700 closed during the last three months of 1929.1

1. Ibid., 132:1721-22, March 7, 1931.
CHAPTER VI

GOVERNMENT ASSISTANCE TO AGRICULTURE

Department of Agriculture.

The United States Department of Agriculture was established by the Act of Congress of May 15, 1862, which provided that "there shall be at the seat of government a Department of Agriculture, the general design and duties of which shall be to acquire and diffuse among the people of the United States useful information on subjects concerned with agriculture in the most general and comprehensive sense of the word...."1

The head of the department, the Secretary of Agriculture, is a member of the President's Cabinet. In addition there are an assistant secretary and five directors who are in charge of the following departments: scientific work; regulatory work; extension work; personnel and business administration and information.

The following major units enable the department to function efficiently: Office of the secretary which includes the general administrative, business and legal offices, Weather Bureau, Bureau of Animal Industry, Bureau of Dairy Industry, Bureau of Plant Industry, Forest Service, Bureau of Chemistry and Soils, Bureau of Entomology, Bureau of Agricult-

tural Economics, Bureau of Home Economics, Plant Quarantine and Control Administration, Grain Futures Administration, and the Food, Drug and Insecticide Administration.

Within the department are also included the office of experiment stations, extension service and office of information and library. While the President appoints the secretary and the assistant secretary, the head of the department selects his directors, chiefs of bureaus and other employees, whose positions are filled strictly under the Federal Civil Service system. In 1935 the department had 5,964 employees in the District of Columbia. Outside of Washington there were 31,305, making a total of 37,769 men and women employed.

With the enactment of special laws the department began to spread its influence into each of the 48 states, where it now cooperates, by means of agricultural colleges and experiment stations, in the promotion and co-ordination of research work. It also maintains the system of agricultural extension through which by county agents and specialists the newest discoveries in agriculture and home economics are brought directly to the attention of farmers.

The department engages extensively in scientific research to aid in the production and marketing of crops and live stock and in specialized fields which include forestry,

wood utilization, rural sociology, food chemistry and bacteriology, road building, maintenance, rural engineering, and meteorology. Experiment stations and laboratories are maintained at many points in the United States and in Alaska, Hawaii, Puerto Rico, Guam, and the Virgin Islands. It conducts extensive investigations in agricultural economics and promotes orderly production and marketing by disseminating economic information such as crop estimates, daily market reports, etc. Campaigns are carried on independently, and in cooperation with the states, to eradicate or control disease and insect pests of crops and live stock.

About 40 regulatory laws are administered and enforced, including the Meat Inspection Act, Food and Drugs Act, Milk Importation Act, Insecticide and Fungicide Act, Plant and Animal Quarantine Acts, Migratory Bird Treaty Act and numerous acts to establish grades and standards and regulate the marketing of cotton, grain and other commodities.¹

From its inception up to April, 1917, the United States Department of Agriculture cost the inhabitants of this country approximately $235,000,000. In 1862, there were but a few clerks composing the department. By 1917 the number had risen to 18,750 employees, the majority of them specially trained for their respective tasks.² Each succeeding year

saw the department grow larger until now there are approximately 40,000 men and women comprising its personnel.

In 1933, the budget appropriation for the Department of Agriculture was $199,935,851. The purse strings were tightened the following year, for the amount allotted by Congress had dropped to $110,512,207. Exclusive of some minor emergency items, this money was for ordinary expenditures.

State Departments.

Following the establishment of subordinate departments within each state, the first State Department of Agriculture was formed in Georgia in 1874. One year later, a more centralized department was established in Tennessee. As the smooth functioning of these two departments became evident, the other states throughout the nation realized that this method was the best agency for handling the various problems which arose in regard to agriculture, and consequently the movement spread rapidly throughout the other states.¹

National Banking Act Amended.

It took a generation of divergent opinion among state and national legislators to arrive at a common understanding that one of the principal functions of the National Government was to assist basic industries to become stabilized and self-sustaining. This idea was conceded definitely soon after the turn of the twentieth century. The first attempt

to render assistance to agriculture in a financial way was the passing of an amendment to the National Banking Act in 1900, which legalized the reduction of the minimum requirement for incorporating and establishing country banks from $50,000 to $25,000.

Federal Reserve Act Amended.

However, these newly organized national banks could not accept legally real estate mortgages as security for credit extended. In 1914, the Federal Reserve System invested national banks with this power, which was invoked through Section 13 of the Federal Reserve Act. This section defined the eligibility of paper which could be rediscounted in agricultural centers of the greatest importance to the majority of farmers. While three months was the usual maximum period for the rediscounting of commercial paper, a special provision in the section provided that notes, drafts, and bills drawn or issued for agricultural purposes, or based on live stock, having a maximum maturity of six months, might be discounted, within certain limits, by Federal Reserve Banks.

Federal Land Banks.

Since neither the national banking system nor the Federal Reserve System was authorized to furnish long-term credit to the farmer, the Federal Farm Loan Act was passed in 1916 to meet this imperative need. This was the nucleus
of government activities in the domain of agricultural credit, which since that time has steadily expanded to meet the essential requirements of the farmer.

The Act provided for the establishment of Federal Land Banks and of Joint Stock Land Banks, whose specific purpose was to supplement the then existing private credit facilities which could not take care of the current banking needs in farming communities and to deflect a fair proportion of the nation's capital into agricultural channels. The secondary purpose of the Land Banks was to furnish a cheaper and more flexible credit system for long-term needs.

The country was divided into twelve districts, each having an established Land Bank, and each with a capital of $750,000 subscribed by the Federal government. Loans were granted to an individual upon mortgage security, guaranteed by a national loan association composed of not less than ten charter members who were farmers. Each respective member owned shares of stock in the association. The association, in turn, was obligated to own stock in the Federal Land Bank.

Necessary capital was obtained by the sale of bonds issued by Federal Land Banks, which bonds were guaranteed by mortgages on substantial farm property which had been

2. The Annalist, 42:351.
endorsed by the loan associations. Interest rates on loans to farmers could not exceed by more than one per cent the rate paid on the previous debentures issued by the bank and usually averaged about 5\% per cent.

Federal Land Bank Mortgage loans reached their peak in 1929 with a total volume of $1,198,000,000. By the end of 1932, the loans had declined to $1,116,700,000.¹

Many signs indicated that this type of banking was evolving into a condition when the assets would inevitably become frozen. This state was reflected in the financial markets in September 1931, when the 1953-1956 4\%'s were quoted at 72. Congress took cognizance of the serious condition on January 23, 1932, when it appropriated $125,000,000 in an attempt to relieve the situation.²

From 1916, the year of its establishment, until October 31, 1925, the Federal Land Bank system had extended aid to 364,000 farmers whose loans totaled $1,093,000,000, an unusual record of valuable services rendered.³

**Joint Stock Land Banks:**

The Joint Stock Land Banks, however, were private institutions, although provided for in the Federal Farm

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Loan Act. The formation of a Land Bank required a minimum capital stock of $250,000, protected by double liability, together with ten or more incorporators. In accordance with the law, they were authorized to grant loans to individual farmers on the security of their property. The money with which the Joint Stock Land Banks did business with farmers was obtained by the sale of debentures. The amount of loans outstanding could not however exceed fifteen times the amount of its capital and surplus. While the Joint Stock Land Banks rendered a useful service, they are not to be compared with the Federal Land Banks either in total volume of loans or in the profound effect they had in strengthening the financial fabric of agricultural banking, as the following figures will reveal.

From the beginning of their activities up to June 30, 1932, the Federal Land Banks had liquidated loans totaling $1,709,155,915, and had outstanding $1,139,071,015 in loans. The Joint Stock Land Banks during the same period had closed $899,899,156 in loans and had outstanding loans totaling $499,246,045. Both the Federal Land and Joint Stock Land Banks held a total farm indebtedness of $1,638,317,060, or 17 per cent of the total amount outstanding. Had the condition of the bond markets been favorable toward the disposal of more bonds at fair prices, it would have been possible for the banks to make more loans because of the great number of applications.¹

United States Grain Corporation.

War-time emergency conditions created another problem which developed an artificial relationship between the Federal government and the agricultural elements. In order to establish an efficient control over food and supplies during the period of the war, the government formed the United States Grain Corporation. Its main object was the efficient allocation of available supplies to our domestic trade, to the commissions of various countries, to the neutral governments, and to our own army and navy. During its existence, products valued at $2,127,127,000 were handled by the corporation. Of this amount, $1,140,725,000 was credited to transactions in wheat and $633,809,000 represented payments for flour. The outstanding service rendered by the Grain Corporation was in demonstrating the possibilities of centralized marketing under government regulation or control.

War Finance Corporation.

In April, 1918, the War Finance Corporation was organized. Its purpose was to render financial assistance to certain industries essential to the prosecution of the war, and it ceased to function in May, 1920. By the close of that year, Agricultural prices had dropped to extraordinarily low levels, and Congress realized the necessity of stimulating the economic flow even if government funds were

necessary to accomplish this purpose.

Therefore, the War Finance Corporation was again revived and invested with additional authority of making loans to banks, financial institutions and cooperative associations that were financing farmers and raisers of livestock. Approved loans for such agricultural purposes totaled $455,447,000 and were apportioned in 37 states. Of this amount, $182,000,000 went to banking institutions, $77,000,000 to live stock loan companies and $172,000,000 to cooperative marketing associations. ¹

From these various allotments, $26,561,441 was loaned to aid in the movement of cotton; $3,277,800 for the exporting of grain; and $2,417,660 for exporting tobacco. Other sums furnished were $7,546,902 to general exporters and $2,637,755 to cooperative marketing associations. ²

While the Finance Credit Corporation was authorized to disburse loans, it had not been invested with legal power to create more credit resources. The rural credit agitation from 1920 to 1923 had revealed the necessity for such additional credit channels. As farm prices steadily declined in 1920 and 1921, many country banks, on whom farmers had depended for credit, were forced out of business. A second result was the heavy withdrawal of credit from farming areas and placing it in urban banks where it could enjoy a greater measure of security. Money became so scarce in agricultural

areas that lending rate of 8, 10 and 12 per cent became common. The farmers' dependence on operating credit was a condition inherent in the nature of the industry. This condition is illustrated by the increasing credit extensions between 1915 and 1920. In 1915, banks loaned $1,609,970,000 on personal collateral, which had increased by 1920 to $3,369,891,415.

Capper-Volstead Act.

In the midst of this farm credit agitation, Congress passed the Capper-Volstead Act on February 18, 1922, which gave agricultural cooperative marketing associations immunity from prosecution under the anti-trust laws. The motivating influences behind the passing of the act reflected a direct attempt to place some restraint on cooperatives, and define their responsibilities under the law. The second section of the Act provides that the Secretary of Agriculture may take steps to prevent the undue enhancement of prices of agricultural products by cooperative organizations.

Federal Intermediate Credit Banks.

The Agricultural Credit Act, approved March 4, 1923, was in answer to the demands of the agrarian interests for a credit system which would ease the load of commercial credit institutions by making it possible for government agencies to supply farmers with shorter-term credits than were hereto-


fore available. Under the provisions of this act, the Federal Intermediate Credit Banking system established twelve districts into which the United States was divided, the pattern and locations being identical with those of the twelve Federal Land Banks.

The authorized capital of each of these intermediate credit banks was $5,000,000, or a total of $60,000,000, all of which was subscribed and paid for by the Secretary of the Treasury. Exclusive of the capital paid in by the Federal government, the banks raise funds for lending operations through the sale of collateral trust debentures, or similar obligations, with a maturity of not more than five years. One provision of the Act — designed to place a brake on reckless practices — is that the sale of capital stock or debentures, and the rediscounting of agricultural paper must not exceed ten times the capital and surplus of individual credit banks. Under the law, interest charges cannot exceed by more than one per cent the interest rate of the preceding issue of debentures. For several years the initial loan and discount rate has averaged 5 1/2 per cent, with a gradual trend toward further reductions.

A concerted drive by the agricultural interests to bring about more flexible intermediate credits than prevailed in commercial banks resulted in the Agricultural Credits Act. Containing all the provisions of the Capper-McFadden and the
Lenroot-Anderson bills, the act was designed to give a greater coverage to its objectives.

The Capper-McFadden bill aimed to liberalize and extend the powers of the Federal Reserve Banks. It also intended to strengthen and develop the then existing country banks so that the entire banking system would be more useful and better adapted to meet agricultural needs. The Lenroot-Anderson bill had as its purpose the establishment of a separate banking system to serve exclusively the specific necessities of agriculture, and erected upon the foundation of Federal capital and administration. Having satisfied the proponents of the two foregoing bills, the Agricultural Credits Act was signed by President Harding, becoming a law on March 4, 1923.¹

In accordance with the law, the establishment of Federal Intermediate Credit Banks was mandatory, while the promotion of national agricultural credit corporations was left entirely to private initiative and received no financial assistance from the government. When the system was first inaugurated, the rate on loans and discounts was 5 1/2 per cent. Experience has shown that local interest costs have not been radically affected by competition with Federal Intermediate Credit Banks, largely because of necessary restrictions. On December 31, 1932, only 3.2 per cent of

all the outstanding discounts were for commercial banks.¹

Farmers now find it easier to obtain loans from their local institutions, for as a last resort they can always fall back on the facilities of the credit banks to satisfy their financial needs. The fixed policy of the credit banks is not to compete aggressively with commercial banking, but they are ready to extend loans to farmers who cannot obtain them in commercial channels.²

According to a consolidated statement compiled from reports to the Farm Credit Administration, the assets of the Federal Intermediate Credit Banks on December 31, 1933, were $195,648,811.93. The capital paid in, earned surplus, reserves for contingencies, and undivided profits for the calendar years 1923 to 1933 are comprised in the following table.³

<table>
<thead>
<tr>
<th>Year</th>
<th>Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1923</td>
<td>$20,152,271.20</td>
</tr>
<tr>
<td>1924</td>
<td>24,827,931.89</td>
</tr>
<tr>
<td>1925</td>
<td>25,369,104.10</td>
</tr>
<tr>
<td>1926</td>
<td>26,132,624.46</td>
</tr>
<tr>
<td>1927</td>
<td>26,311,273.10</td>
</tr>
<tr>
<td>1928</td>
<td>28,916,755.46</td>
</tr>
<tr>
<td>1929</td>
<td>32,196,778.46</td>
</tr>
<tr>
<td>1930</td>
<td>33,239,209.59</td>
</tr>
<tr>
<td>1931</td>
<td>33,946,936.47</td>
</tr>
<tr>
<td>1932</td>
<td>34,166,094.03</td>
</tr>
<tr>
<td>1933</td>
<td>63,579,367.40</td>
</tr>
</tbody>
</table>

1. Ibid, p.107.
...
Intermediate credit banks also made short-term loans for productive purposes, which during 1929 amounted to $19,700,000. More than one-half of this amount was allotted to farmers for the raising of cotton and tobacco, and most of the balance was loaned to finance the growing of sugar cane and rice.

The following table enumerates the apportionment:

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Amount</th>
<th>Percentage Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton and Tobacco</td>
<td>$12,700,000</td>
<td>64.5</td>
</tr>
<tr>
<td>Sugar Cane</td>
<td>2,400,000</td>
<td>12.2</td>
</tr>
<tr>
<td>Rice</td>
<td>2,200,000</td>
<td>11.2</td>
</tr>
<tr>
<td>Potatoes</td>
<td>1,050,000</td>
<td>5.3</td>
</tr>
<tr>
<td>Nuts and Vegetables</td>
<td>1,350,000</td>
<td>6.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$19,700,000</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Federal Farm Board.

But the farmers in their agitation for a banking system to extend intermediate credits had confused their price problem with their credit problem. The real crux of the farm depression was the violent drop in farm prices which occurred when the full force of the return of European acreage from war-time functions to normal crop growing; the opening up of new agricultural areas in Manchuria, Australia and the Argentine; and the pressure on world commodity prices exerted in a downward direction by the return of many

The text is not legible due to the quality of the image.
European countries to the gold standard, made itself felt.

The industrial financial elements were in control of governmental policies, and agrarian agitation for federal legislation to ameliorate conditions met with failure for the best part of a decade. The McNary-Haugen bill was thrice vetoed by Presidents Harding and Coolidge, who feared to disturb the existing statu quo of our foreign trade relations by approving any law which would encourage the dumping of our agricultural surpluses on world markets.

The price trend continued downward aggravating conditions in the rural areas, so that in July 1929 cotton was selling at $1.00 a bale and wheat at $1.65 a bushel. These prices were considered unusually low by economists and legislators who could not foresee what was yet to come. A special session of Congress was held; and mainly to stave off more radical legislation, the Agricultural Marketing Act, creating the Federal Farm Board with its revolving fund of $500,000,000, was enacted.

Soon after the Act became a law, the Federal Farm Board gave it the following interpretation.¹

1. Organize cooperative marketing agencies and use its funds as facility loans to these cooperatives, to erect warehouses or other facilities to carry on the marketing program.

2. Promote the integration of existing cooperatives into large regional and nation-wide units.

3. Loan money to cooperatives to buy crops and store them, or enable the cooperatives to make crop loans to farmers.

4. Organize stabilization corporations that would buy commodities from the cooperatives when the latter for some reason were unable to carry the crops.

The Act itself had provided that the Board might create stabilization corporations empowered to "purchase, handle, store, process and merchandise" any commodity, including cotton, dairy products, wheat, rice, live stock, wool and mohair, tobacco, poultry and eggs, seeds and grasses, coarse grains, sugar beet and sugar cane, in which a surplus threatened unduly to depress prices.¹

In the Summer of 1929 the Farm Board chiefly concerned itself with aiding existing cooperative farm groups to organize agencies for the unified marketing of their products.² It was the policy of the Board to support one national cooperative in each commodity, to encourage farmers to join, avoid duplication of agencies, and to discourage competition. The ideal devoutly wished by this administrative organization was to create an integrated set-up of agricultural producers with production and price policies at least equivalent to the production control policies of the large corporations in industry.

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The trend out of the empirical facts of these days is clear. It is difficult to determine the precise means by which the change is taking place, but the overall effect is undoubtedly positive. The increase in productivity and efficiency has been significant, and the benefits are felt across various sectors of society. While there may be challenges and resistance to change, the long-term benefits of innovation and progress are evident. It is crucial to continue supporting these efforts and fostering an environment that encourages creativity and collaboration. This will ensure that we can adapt and thrive in the rapidly evolving landscape.

In conclusion, the changes we are witnessing are not only transformative but also essential for our future. By embracing innovation and adapting to new technologies, we can enhance our capabilities and improve the quality of life for everyone. It is up to us to seize these opportunities and drive progress forward.
Continued emphasis on such a policy was nullified by the trend of events. Commodity prices kept declining and in October, at the time of the stock market crash, it became necessary for the Board to change its policy from the marketing angle to one of price maintenance. Under the provisions of the Act, accordingly, the Board declared an emergency existed and announced that it was ready to lend to cotton cooperatives at 16¢ per pound and to wheat cooperatives on their holdings at $1.16 per bushel in Chicago, and $1.25 per bushel in Minneapolis.

Within two years of operations the Board had used $403,024,870 of the revolving fund of $500,000,000 and during this time had acquired about 1,310,789 bales of cotton, representing an investment of 18¢ per pound, or $120,000,000. During this same period, ended June 30, 1931, it had bought and removed from market 329,641,052 bushels of wheat at a cost of $270,204,503.¹

By January, 1931, the Board was finally in control of domestic wheat prices, but the differential between domestic and world wheat prices had practically abolished all wheat exports. For January, 1930, wheat exports amounted to approximately 10,000,000 bushels, whereas for January, 1932 the shipments totalled merely 500,000 bushels.²

Nevertheless, in spite of the resistance through the efforts of the government, to price trends, the commodity price level continued its downward course. In July, 1931 after two years of Federal Farm Board operations, wheat was selling at 50¢ a bushel, cotton at $30.00 a bale, and the whole index of agricultural prices had fallen an additional 30%.

The efforts of the Federal Farm Board to maintain prices through purchasing at "pegged prices" proved futile. Up to August 31, 1931 the Federal Farm Board had applied $403,024,870 of the revolving fund of $500,000,000 in an attempt to stem the tide of declining prices. It then changed its policy and tried to sell all that it could. The result was that the revolving fund became frozen and it was not until March 1933 that the last remaining wheat, 1,100,000 bushels, was sold at 60¢ a bushel. Thus ends the attempt, paralleling in its results the Brazilian plan, for the valorization of coffee and the Stevenson plan for the pegging of rubber prices, to stabilize prices through open market purchases by which a loss of $350,000,000 was sustained.¹

Although the Farm Board failed to influence the prices of any of the important commodities, it is to be presumed that a great deal of effective organization was carried on in bringing a great many farmers into cooperative

¹. World Almanac, Heral Publishing Company, pp.101 and 160, 1933
groups and integrating these groups into larger units.  

Reconstruction Finance Corporation.

After three years of vain attempts on the part of the Federal Farm Board to correct agricultural conditions and thus contribute to national internal stability, the entire economic structure collapsed. Financial institutions, the nerve centers of the entire system, were jeopardized by the collapse of stock market prices. There was a panic to withdraw funds from banks; credit extensions were curtailed or withdrawn; and loans became frozen.

Although President Hoover was in the main committed to the theory of automatic recovery and believed that it was not the function of the government to interfere in the economic sphere, he realized by the beginning of 1932 that the theory could not safely be permitted to run its course. He shrank from the avalanche of liquidation and bankruptcies which perforce would ensue. Upon his recommendation the Reconstruction Finance Corporation was organized by Act of Congress and approved January 22, 1932, with a capital stock of $500,000,000 paid in by the government.

As stated in the text of the Act itself, this agency was created "to provide emergency financing facilities for financial institutions; to aid in financing agriculture, commerce and industry; and for other purposes." The agri-


cultural credit institutions either privately created or initiated under governmental auspices were subject to the same calamities as financial institutions in other sections of the country. Accordingly, they were only too glad to obtain this additional supporting prop from the hands of the government.

From the time of its creation until December 31, 1934, the following loans upon agricultural commodities or to agricultural institutions were made:\[1\]

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loans on cotton, corn, tobacco, and other commodities</td>
<td>$993,608,431.</td>
</tr>
<tr>
<td>Loans to Federal Land Banks</td>
<td>399,636,000.</td>
</tr>
<tr>
<td>Loans to regional agricultural credit corporations</td>
<td>178,840,452.</td>
</tr>
<tr>
<td>Loans to Joint Stock Land Banks</td>
<td>21,103,172.</td>
</tr>
<tr>
<td>Loans to Livestock Credit Corporations</td>
<td>14,474,962.</td>
</tr>
<tr>
<td>Loans to Federal Intermediate Credit Banks</td>
<td>9,250,000.</td>
</tr>
<tr>
<td>Loans to Agricultural Credit Corporations</td>
<td>6,013,379.</td>
</tr>
</tbody>
</table>

In addition to loaning funds to financial agencies in the field of agriculture, the Reconstruction Finance Corporation is empowered to make loans for the purpose of financing the sale of surpluses of agricultural products in

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the markets of foreign countries when such sales cannot be financed in the ordinary course of commerce, in order that these surpluses may not have a depressing effect upon current prices of such products.

In the United States where private domestic capital is the predominant factor in financing enterprises, the Reconstruction Finance Corporation is regarded by many as a mere emergency institution; but with Congress extending its life until 1939 and with the trend in government planning and control, this attitude is not fully justified.

Regional Agricultural Credit Corporations.

As a temporary activity and to relieve acute distress caused by the absence of credit funds for operating purposes, the Reconstruction Finance Corporation was authorized to create in any of the twelve Federal Land Bank districts a regional agricultural credit corporation to make direct loans to farmers for crop production purposes or for the raising, fattening, or marketing of livestock. Each was furnished with a paid-up capital stock of $3,000,000 by the Reconstruction Finance Corporation and were empowered to rediscount their paper with the Reconstruction Finance Corporation, the Federal Intermediate Credit Banks and the Federal Reserve Banks. This new credit institution was not intended to compete with these other organizations but was temporarily intended to supplement them.
Production Credit Corporations and Associations.

It was not long before it became evident that a permanent system of short term credit was needed in agriculture to supplant the independent and locally-owned private banks which had been the pivot of farm financing until the banking crash of 1933. Under authority of the Farm Credit Act of 1933, a permanent production credit system for agriculture, cooperative in character, has been organized and is so designed that eventually it can be owned, controlled and operated by the farmer members themselves.

In each Land Bank District a Production Credit Corporation has been established to assist in the organization of Production Credit Associations by providing most of their capital through subscriptions to their Class A stock. The Corporation also supervises and subscribes rules and regulations for the conduct of the Association. Membership in the Production Credit Association is divided among groups of ten or more farmers who purchase class B stock in proportion to their borrowings. This paid-in capital is used as additional security for the farmers' notes which are rediscounted by the Federal Intermediate Credit Banks. The spread between rates to farmers by Production Credit Associations and the rediscount rate of the Federal Intermediate Credit Banks may not exceed 3½%. On June 1, 1935 the rediscount rate was 2½%, so that the maximum rate being charged by Production Credit Associations was 5½%. At the end of the
first year there were 650 production credit associations in existence in which total commitments for short-term loans amounted to $45,000,000.\footnote{Pamphlet: A Year of Agricultural Credit through the Farm Credit Administration, Government Printing Office.}

**Banks for Cooperatives.**

Increased unity of action in marketing and production policies among farmers, the goal toward which the previous administration had strived, was not lost sight of by the succeeding New Deal Administration. Cooperatives as an agency for increased integration of farmers were still regarded as the means through which farmers might attain a power of collective bargaining in the economy equivalent to that of industrial corporations or labor unions. To promote continued activity in that direction, the government lent its aid and money to the creation of a Bank for Cooperatives in each of the twelve regional land bank districts, and a Central Bank for Cooperatives located at Washington, D.C.

The Central Bank for Cooperatives with a capital stock of $50,000,000, and each of the regional Banks for Cooperatives with a capital stock of $5,000,000, received its initial funds from the government out of what was left of the revolving fund of the Federal Farm Board. The newly created banks make loans to national, regional, and local farmers' cooperative associations. These borrowing co-
operatives participate in ownership of these banks under a requirement which provides that the borrowing association is required to be a stockholder in the lending bank for the duration of its loan, to an amount of stock equal to 5% of its loan. Such a requirement emphasizes private ownership, individual initiative, and avoids paternalism on the part of the government.

Loans are made for the purpose of financing the handling of readily marketable commodities upon the security of such commodities; to assist cooperatives in the financing of their operations; to aid in the effective merchandising of agricultural commodities and food products; for the construction or acquisition by purchase or lease (or for refinancing the cost of construction or acquisition) of physical facilities for handling, storing, processing or merchandising agricultural commodities, other food products or farm supplies. Interest rates are fixed by law and may not exceed 6% but generally they run from 2% to 4%. Typical recipients of benefits from these provisions were organizations such as the American Cotton Cooperative Association, the Wool Marketing Corporation, and the Sun-Maid Raisin Growers Association.¹

From its organization on September 12, 1933, through December 31, 1934, the Central Bank for Cooperatives received

Social behavior can be observed in many animals, but their motivations and communicative functions are largely unknown. The analysis of these phenomena is crucial for understanding the evolution of communication systems. The study of animal communication is not only fascinating but also essential for addressing questions about the origins of language in humans.
loan applications for Cooperatives received loan applications totaling $91,083,634 from 60 cooperative associations, while the district or regional banks received applications in the aggregate amount of $42,065,431 during the corresponding period. Advances made by the Central Bank from its organization through 1934 totaled $47,045,000, of which 99 per cent were effective merchandising loans and 1 per cent facility loans. During the corresponding period the district banks advanced $19,609,392, of which 70 per cent were effective merchandising loans and 30 per cent facility loans.\(^1\)

Debt Relief.

With the commercialization of agriculture and the increased use of all forms of credit in farming, there was introduced an economic hazard into farming to take its place alongside of the natural risks of frost, hail, parasites and similar dangers. In the order of things no provision exists for automatic adjustment of debts when prices fall and accordingly it takes more goods and services for a debtor to liquidate his obligation than would be the case if prices remained constant or rose rather than declined. In effect, when a farmer accepts a credit extension, he is guaranteeing to himself that prices will not work against him during the

period that the loan is outstanding and when he does this, he ignores the years of historical experience in price fluctuations.

With the drastic decline in the general price level and particularly in the prices of agricultural commodities, the burden of paying interest on loans or of paying off the loan itself was greatly increased. Interest and attendant costs of the mortgage debt in 1930 represented a fixed annual cost of $568,000,000. While the capacity to carry this charge in the next two years greatly declined, the charge itself remained. In 1931 interest on farm mortgage debt absorbed about 8% of the gross farm income, compared with 4% in 1920 and 3% in 1910.¹

In recent years an increasing number of farms have been mortgaged. Some 42% of all American farms are mortgaged to an aggregate of some $8,500,000,000. By 1933 the farmers' taxes had increased 50% above the pre-war level, while articles to be purchased cost about 10% more and farm income had been cut in about half.² The increase of debt burden due to the drastic decline in farm prices in 1932 and 1933 made it impossible for many farmers to meet their mortgages. And this condition was largely beyond the farmer's

² S. Everett and E. Brunner, Helping the National by Helping the Farmer, p. 8, Holt and Company, New York, 1933.
control. So onerous were the fixed charges on farms that during the five years ended March 1, 1932 9.5% of all farms changed hands through forced sale (foreclosure of mortgages, bankruptcy, default of contract, sales to avoid foreclosure, etc.); while 3\(\frac{1}{2}\)% of all farms were sold for tax delinquencies.¹

Forced selling became so widespread, and resistance on the part of the farmers became so serious that it became necessary, in response to the insistent demand for the abrogation of the normal laws relative to foreclosure and sale upon execution, for the state legislatures to pass laws protecting the delinquent mortgagee from foreclosure for stated periods. Enactment was made for this purpose by practically every state legislature. The Minnesota Farm Mortgage Moratorium Act was carried to the United States Supreme Court which declared the validity of the law on the ground of general economic emergency, although it was questionable if it would be constitutional to pass such laws for an indefinite or permanent length of time or for any arbitrarily assigned cause.² In 1935 Kansas, Iowa and Nebraska states, which enacted farm moratorium acts in 1933 for two years, extended them for another period of two years.

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But it was Federal action rather than state legislation which was of primary significance insofar as relief from farm debt burden in the interest of national economy was concerned. On June 28, 1934 Congress passed the Farm Bankruptcy Act. This is an amendment to the general bankruptcy act and permits, or rather provides, special privileges for farmers in bankruptcy. In effect, this law gave the farmers an extension of five years before their property could be taken away from them, during which time they could remain on the land and eventually buy back the property, paying one per cent a year. Because it infringed upon the rights of creditors, this Frazier-Lemke Farm Mortgage Moratorium Law, as it was called, was unanimously declared unconstitutional by the United States Supreme Court on May 27, 1935.

Other legislation by the Frazier-Lemke combination representing the debt-ridden farmers met a similar fate. The above bill was rewritten in 1935 and changed the moratorium provisions to three years. It was likewise declared unconstitutional. Efforts were then made to have the government refinance farm mortgages. Under the Frazier-Lemke Currency Bill, Congress was asked to pass a bill providing for the printing of $3,000,000,000 in currency to refinance farm debts. It was intended that the government would assume the mortgage indebtedness of the farmers and allow them forty-seven years to pay it at 3% interest. Although the measure was approved
...
by both the Senate and the House Agricultural Committees, it was decisively defeated 235 to 142 when put to a vote in Congress. Instrumental in defeating it was the American Federation of Labor, whose president reasoned "when inflation is adopted, commodity prices rise but wages stand still."

In the three years following May, 1933, total disbursements by the bank under the farm mortgage refinancing program amounted to more than $2,040,000,000 on upward of $760,000 loans. Approximately ninety out of every one hundred dollars disbursed on land bank and Commissioner's loans went to pay borrowers' debts.

The annual interest savings to farmers has been about one-fourth of the interest previously paid. It amounts to $19,000,000 a year. The chief beneficiaries, however, through these repayments were the holders of the mortgages refinanced - insurance companies, mortgage loan companies, country banks and private investors. Tax delinquent lists were cut down. Farm supply companies that had been carrying clients on credit were repaid. Closed banks throughout the country were able to make dividend payments to their depositors through the liquidation of frozen assets represented by farm mortgages. The flow of money thus started benefited every phase of rural business as well as having its reflections in larger cities.¹

¹ W. J. Myers, Cooperative Farm Mortgage Credit, 1916-1936, p.16,17. Farm Credit Administration.
Keeping efficient farm owners on their property and in their own home is in the interest of both debtor and creditor. Consequently, the Federal Government found it feasible to take some action to relieve the burden of farm mortgage debt.

The Emergency Farm Mortgage Act authorized the formation of a Federal Farm Mortgage Corporation with an issue of $2,000,000,000 in bonds at from $3\%$ to $2\frac{3}{4}\%$ interest with both principal and interest unconditionally guaranteed by the United States government. These bonds or the proceeds from the sale of them were to be used to purchase farm mortgages from their present holders. Of this sum $600,000,000 was allotted to the Land Bank Commissioner for special loans exempt from the ordinary rules of the land banks. For instance, where the bank rules permitted the granting of first mortgage loans up to but $50\%$ of the value of the property, he was permitted to make special loans up to $75\%$ of the appraised value and take second mortgages as well as first mortgages. Finally, $200,000,000 was provided for direct loans to farmers for refinancing mortgages at lower rates, for working capital and for the repurchase and redemption of farm property.

Farm Credit Administration.

Current Conditions had imposed upon all of the agricultural credit institutions which were organized under governmental supervision or with government funds tasks of an emergency nature. Developments upon the economic horizon indicated that these institutions would be a permanent section of the national credit system.

In order to make the carrying out of national policy in agricultural credit most efficient and with the least overlapping of effort, the Farm Credit Administrative System was organized by executive order on May 27, 1933. Its general purpose is to provide a complete and coordinated credit system for agriculture by making available to farmers long-term and short-term credit. It also provides credit facilities for farmers and cooperative purchasing and marketing organizations.

The Farm Credit Administrative System includes in its make-up twelve Federal Land Banks making long-term first mortgage loans to farmers; twelve Federal Intermediate Banks that discount short-term agricultural and live stock paper, make loans on the security of such paper and make direct loans to cooperative marketing and purchasing associations; twelve Productive Credit Corporations, which supervise and furnish a part of the capital for local productive credit associations providing short-term credit for production and general agricultural purposes; and also one Central Bank of Cooperatives
and twelve district Banks for Cooperatives which provide credit for farmers, cooperative purchasing and marketing organizations and the Federal Farm Mortgage Corporation, which aid in financing the lending operations of the Federal Land Banks. Joint Land Banks, which were a part of the Regional Land Bank System, are also under its jurisdiction pending liquidation, their authority having been terminated. The twelve Regional Agricultural Credit Corporations (established by the Reconstruction Finance Corporation and which are being liquidated), as well as the feed and seed loan activities of the Department of Agriculture, are also under its jurisdiction. With the creation of the Farm Credit Administration, one more link is welded to bind the farmer closer than ever to dependency upon governmental policies.

Other Government Activities.

Within the past four years many laws have been passed; much money has been appropriated; and new and varied activities undertaken by governmental action or encouragement, having for their objectives the improvements of economic conditions resulting from the planlessness of our past economic efforts, or the chaos of recent years, increasing the effectiveness of individuals in the contribution to the aggregate of national goods produced or services rendered, or laying the ground-

work for an order which will mitigate the distress of future depressions.

Space will not permit going into detail concerning these activities, but they must at least be mentioned. Among them are the following:

1. The Works Relief program under which the government allotted vast sums of money to relieve unemployment by using unoccupied workers in useful projects.

2. The Tennessee Valley Authority created not only to permit experimentation in the production of electricity and to furnish a "yardstick" for private industry, but also to facilitate the decentralization of industry, and the furnishing of jobs to many souls now living in the Tennessee Valley.

3. The Rural Electrification Administration, organized to develop a program of approved projects with respect to the generation, transmission, and distribution of electricity in rural areas. For this purpose Congress appropriated $100,000,000. The aim of the program was to electrify as many of the 5,000,000 farm homes which lacked this convenience and valuable aid as quickly as possible. Only 800,000 farms had electricity of any kind and of these many obtained their power from home plants which were comparatively expensive in operation and maintenance, and limited in use.1

In conjunction with this program, the Electric Home and Farm Authority was organized to "aid in the distribution, sale and installment of electrical apparatus, equipment, and appliances in such a manner as to make practicable the use in homes and on farms, of high quality and low-cost time and labor-saving electrical equipment."2


4. **Farm Tenancy Aid.**—The constant increase in the percentage of arm tenancy in the United States from 35% in 1900 to 38% in 1925; 42% in 1930; and about 50% in 1935 has directed attention to the fact that an increasing number of American farmers have lost their independence and are approaching a feudal condition of serfdom. This trend decreases the value of the group as national assets. Only as free land-owning men and women can they attain their natural economic importance.

At present there is a bill pending before Congress authorizing the government to purchase from the owners of these properties worked by tenants, which represent 72% of all farms in Mississippi and 68% of all farms in Georgia, and relatively high percentages in other states, and arrange with the occupant-tenants for their repurchase at minimum interest rates with payments of principal, less than present annual rental, spread out over periods as long as sixty years.

5. **Social Security Program** developed an effective method of providing economic security, that is, protection against lack of work or poverty in old age through social insurance and unemployment compensation.

6. **Resettlement Administration,** established April 30, 1935 to administer projects involving resettlement of destitute or low-income families from rural or urban areas, into areas where they will be able to make a better living. In connection with this work the Subsistence Homestead program was developed to aid in the redistribution of population from stranded industrial and rural areas.

There are activities other than those already treated. They will be included in the discussion of other phases of governmental activity which follows.

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CHAPTER VII

THE AGRICULTURAL ADJUSTMENT ACT

Post-War Agricultural Policy.

The close of the World War ushered in an era of entirely new conditions facing American farmers than those which confronted them either during or before the hostilities. Prices of their products collapsed. The opening of new agricultural lands in Europe and South America, Asia and Australia; the mechanization of agriculture, lowering as it did the unit cost of farm production which was immediately reflected in prices fixed under conditions of free competition; changes in dietary habits of the people, as well as a definite downward trend in world commodity price levels, made their impact felt in lower prices for farm products.

The farmer's capital besides his land, building, machinery and livestock, is nature and time. Even though the market was not propitious for planting, cultivating, and harvesting, he must continue with this routine, for the contributions to his wealth of time and nature are offered without regard to economic conditions. This lack of control over the physical conditions of agriculture has been intensified and enlarged by the progress of science.¹

Furthermore, the fixed nature of the greater part of farmers' overhead costs furnished another incentive for constant

22. Review

22.1. Critical Analysis

In the context of the proposal, it is clear that

Our analysis suggests that the current framework

may not be sufficient to address the

issues at hand. Therefore, it is crucial to

consider alternative approaches that can

provide a more comprehensive solution.

22.2. Conclusion

In conclusion, the proposal presents a

number of strengths, but it also

highlighted areas for improvement.

Further exploration of these areas

is recommended to ensure the

success of the initiative.

22.3. Recommendations

Based on our analysis, the following

recommendations are proposed:

- Additional resources
- Increased stakeholder

engagement
- Ongoing evaluation

22.4. Future Work

The next steps in this project include

further development of the

framework and piloting the

solution. This process is

expected to take place in the

coming months.
maximum production. To these may be added the physical distances between the farmer's home, his individualistic nature, and the lack of a superior economic intelligence to formulate and carry into practice production control policies, and we have the reason why agricultural production does not vary mathematically in relation to changes in the market prices of crops.

Agricultural Policies vs. Industrial Policies.

In contrast to the free play of production and price adjustments in the marketing of agricultural goods are the production control policies of industry. The classical economic theory required that when demand decreased, prices fell in adjustment so that the entire available supply would be disposed of. Industry, with its quasi monopoly control, has worked out production policies totally at variance with this theory. Whatever adjustments are made to changes in demand are taken in the form of changes in production without any changes in price.\(^1\) Prices in agriculture are impersonal, fixed by market conditions and are automatically made. Frost, heavy precipitation, temperature changes, and other conditions are immediately reflected in sensitive agricultural prices. Prices in industry are fixed by business executives, or by law, as in the case of railroad and public utility rates, or by custom. In industry, prices are relatively rigid and

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change only upon official order. They are fixed to secure maximum profits and are not the coordinate of maximum production and demand. Railroad and public utility rates are fixed arbitrarily to secure to their owners a "fair return on capital invested" and can be changed only by law after lengthy legislative debate. In neither case are these prices functional ones.

Technological improvements introduced into small business and farming are passed along to consumers because of competition, but large corporations which introduce technical improvements are not forced as a rule to lower prices so quickly. They want to retain for themselves the gains which result from reduction in cost. Large corporations can readily reach an agreement, tacit or otherwise, to divide the field or maintain minimum prices, or engage in numerous other practices which tend to keep prices up.¹

The experience of farmers selling in a market under free competitive conditions and purchasing in a market where prices are controlled indicates that when economic conditions drive farm prices downward they do not affect controlled prices to the same extent, and the farmers get less for their efforts than formerly. Differences in the degree of control over production and prices between farmers and other entrepreneurs result in a decline in the farmer's purchasing power and in agriculture receiving a less proportionate share of

the national income than they would otherwise.

**Importance of Farm Purchasing Power.**

Theoretically, the purchasing power of farm products should, without governmental action to that end, show an upward trend with the passing of years.¹ The greater possibility of technological improvements in industry as compared with agriculture, constant improvement in factory methods and the superiority of mass production technique in industry has lowered the cost of industrial production more rapidly than costs have been decreased in agriculture, but the record of price reductions in industry does not show that industry has followed such a practice.²

Using the years 1910 to 1914 as a base of 100 for both prices received by farmers and prices paid by farmers, in 1919 the index of prices received was 209 and the index of prices paid was 205, so that the purchasing power of the farmer was at 102 compared with the base period. Since then, with but temporary advances, the purchasing power of the farmer has been steadily declining. By 1932 farmers' prices received equalled but 56% of the base; while the controlled prices of industry and of goods for which farmers paid had risen to 110% of the base. This meant that the farmers' purchasing power had decreased 50%; that the flow of goods

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and services from urban to rural areas was only half of what it should have been.¹

This impairment in the purchasing power of the farmer is shown in its effect upon the national economy by the reduction in the share of the national income going to agriculture. For the base period 1909 to 1914, farmers received 20.9% of the national income. During the war years the share of farmers increased to 23.9% of the total, but since then there has been a constant decline in the amount of yearly increment going to farm activity.² In 1928 it had declined to about 9.3%. Comparable percentages for subsequent years are not available but current data indicates that in 1931-32 the farmers' share in the national income had declined to about 7%.³

What is not so apparent, however, is the indirect effect which impaired farm purchasing power had upon the national economy. The onslaught of the depression apparently improved the focus of the analytical eye of our legislators as to the importance of maintaining farm-purchasing power and preserving the stability of the flow of economic income through all branches of the economic system. More generally accepted was the fact that impaired purchasing power of the farmer initiates an economic cycle which affects the basic capital

³ Mordecai Ezekiel and Louis H. Bean, Economic Bases for the Agricultural Adjustment Act, p.6, United States Department of Agriculture, December, 1933.
I am not sure how much knowledge was in the field of artificial intelligence at the time, but I believe that the rapid development of computing power and the increasing availability of data has led to significant advances in this area. The use of machine learning algorithms and the ability to process large amounts of data in real-time has allowed for the creation of more sophisticated models that can be applied to a wide range of problems. These models have the potential to revolutionize many fields, from healthcare to finance to transportation.

In order to fully understand and develop these models, it is essential to have a deep understanding of the underlying mathematics and algorithms. This is where the interdisciplinary nature of artificial intelligence comes into play. By bringing together experts from fields such as computer science, statistics, and psychology, we can develop more effective solutions to complex problems.

Overall, the future of artificial intelligence looks promising. With continued advancements in technology and a growing understanding of the potential applications, we can expect to see significant progress in the coming years.
structure and income in industry as well as in agriculture.\(^1\) The majority report of the House Committee on Agriculture on the Jones bill (The Voluntary-Domestic Allotment Plan in one of its many legislative forms) officially recognized the vitality which normal farm purchasing power imparts to the economy when it said:

"Lack of agricultural purchasing power is responsible, directly and indirectly, for more than 6,000,000 of the unemployed ——. It is believed that elimination of the price disparity between agriculture and industry --- will be an effective measure toward meeting the national economic emergency."\(^2\)

Indirectly this was tantamount to saying that technological unemployment is not due to the mere introduction of machines but rather to the impact of the introduction of machines upon our system of prices and incomes.\(^3\) When a given amount of purchasing power declines, business men readjust their entire production programs to fit the smaller amount of consumer demand and lay off factory workers in the process. Thus the agricultural price disparity ultimately leads to industrial unemployment.


The Agricultural Adjustment Act - Purposes and Method.

The Agricultural Adjustment Administration was organized to promote national economic recovery by restoring the purchasing power of American farmers to the general level of the five years, 1909 through 1914, preceding the World War. During that period there existed a relatively equitable balance between the prices of things farmers sold and the prices of things they bought. The proportion of national income that went to agriculture and that which went to other industries was also equitably balanced. This purchasing power of farm goods is designated in the Act as the "fair exchange value", and this value expressed in terms of money has come to be called the "parity" price of farm goods.

Because the prices of manufactured goods change, "parity price" is not a fixed price in dollars and cents. "Fair Exchange value" for farm goods and not a fixed price in dollars and cents was the objective of the Agricultural Adjustment Administration. 2

This Act made it possible for the Government, through production curtailment programs, marketing agreements, and other activities, to assist farmers in establishing and maintaining a balance between their production and the effective

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1. Text of Agricultural Adjustment Act Public #10, 73rd Congress. (H.R. 3835)

demand for their goods, with improved marketing conditions which tended to eliminate price depressing surpluses and to prevent farmers' income from returning to the low level of recent years. Existing surpluses were removed by the joint action of the Federal Emergency Relief Corporation and the Federal Surplus Relief Corporation. Equipped with funds made available for that purpose by the federal government, the former purchased farm products for disposal among the needy poor; while the latter purchased surpluses for disposal outside of customary markets or normal trade channels.

The law empowered the Secretary of Agriculture to levy upon the first domestic processing or manufacture from a basic agricultural commodity an assessment, called a processing tax, at a rate sufficient to compensate for the difference between the prevailing purchasing power of the particular commodity and its purchasing power during the base period - 1909-1914. Processing taxes placed in effect included that on wheat, 30 cents a bushel; cotton, 4.2 cents a pound; corn, 5 cents a bushel; hogs, $2.25 cents a hundred pounds; tobacco, 6.1 cents a pound downward according to the type involved; sugar, $\frac{1}{2}$ cent a pound; peanuts, 1 cent a pound; rice, one cent a pound.

The Agricultural Adjustment Act - Its Operation and Results.

The sums collected by the government as processing taxes were distributed among farmers who signed reduction contracts for restricting production or acreage. In 1934 there were some
3,000,000 cooperating farmers of which 1,000,000 were cotton farmers; 1,000,000 corn-hog farmers and 800,000 wheat farmers. Considered as a bonus for participating in the national agricultural program, the benefit payments had the effect of improving the price which farmers received for their efforts as well. Originally designed to compensate the farmer for his contribution to attainment of national balance in the economic plant, the rental and benefit payments and, therefore, the processing taxes from which they derive, came to mean much more during the years of drought, dust, storm and flood. Cooperation with the Agricultural Adjustment Administration, at least as far as it concerned the 86% of wheat producers and the more than 90% of cotton planters, has come to mean the best possible form of crop insurance.

In the first twenty-one months after May, 1933, during which the agricultural adjustment program was in operation, the average farm price of cotton went up from 8 cents a pound to 12 cents a pound; the price of corn rose from 39 cents a bushel to 85 cents; of wheat, 59 cents to 89 cents; of hogs, 4 cents a pound to seven cents; butter fat, 20 cents to 30 cents; beef cattle, 4 cents to 5 cents.

Despite the ravages of drought and reports of great losses caused, the combined cash income of American farmers, including benefit payments of $500,000,000, for 1934 exceeded that of 1933 by more than $1,082,000,000. Total cash income
for the year amounted to $5,450,000,000; \(^1\) while cash available for spending for the goods and services produced by other sectors of the economy increased from $1,473,000,000 in 1932 to $3,257,000,000 in 1934.\(^2\)

More important, however, than the money income of the farmer was the increase in the farmer's purchasing power. When the Agricultural Adjustment Administration was organized in May, 1933, the farm purchasing power was 62\% of pre-war; in March, 1934 it was 85\% or broadly within 15\% of the price-parity objective sought by Congress through the enactment of the Act. Increases in the prices of goods which the farmers buy partially nullified the effect of the farm curtailment program.

The farm program inevitably had its repercussions in urban areas and among consumers generally. For the first time in American history the people, as represented by the Federal Government, laid hands upon the cost of living and deliberately bent it upwards.\(^3\) House-wives and wage-earners complained bitterly about the rise in the cost of living and instituted boycott programs. Textile manufacturers shut down their plants, claiming that the newly levied taxes prevented profitable operation, and aided and abetted by acquiescent congressional representatives, these producers successfully

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1. From an article in the New York Times entitled, "1934 Farm Incomes Rise $1,000,000,000", August 19, 1934.
contested the validity of the processing taxes before the United States Supreme Court.

**Agricultural Adjustment Administration—Effect on National Economy.**

The income redistribution effected through the TripleA started general economic recovery and caused more total consumption, thereby creating more employment than any other redistribution of the national income would have caused; and failure to divert more income to the farmers would have delayed national recovery indefinitely. By shifting buying power to the farmers, the national government caused this buying power to come into the market for non-agricultural goods and services more fully than it would have done if the distribution of income had been decided exclusively by a struggle between workmen and employees. National government received a lifting power from better balanced relationships among the groups, with special regard to the relative increase in farm income. While the A.A.A. was in operation, national income increased over $20,000,000,000.

The economic justification of farm aid is the objective of a balanced internal economy rather than any special interest in the agrarians. Any group which happens to be far out of line disturbs the entire economy, which flourishes when the groups in balanced relationships are able to give full employment to one another through interchanging the products of their year's labor.
Significance of Agricultural Adjustment Program.

From the over-all point of view, the agricultural program, however, expressed, contemplates the economic rationalization of agriculture through state action. The government has already gone far along this road in its education of service and regulatory functions.¹ The latest step was the furnishing of an instrumentality for integration in agriculture equivalent to a similar prior existing system in industry.

CHAPTER VIII

OTHER GOVERNMENT POLICIES AFFECTING AGRICULTURE

With the extension of our economic system over the entire country from the Atlantic to the Pacific and the weaving of this system into the pattern of economic relationships which spreads out over the entire globe, it became inevitable that activity in one phase or area would have its repercussions elsewhere. The emulsifying of the globules of business organization into a single homogenous system has meant that conditions and policies of one group now vitally implicate the entire economy. In the money and credit policy, the land policy as well as the foreign trade policy of the government, the position of agriculture with reference to the general economic arrangement has been affected.

MONETARY POLICY -

Our System of Money and Prices

An outstanding feature of modern economic society is the extent to which its proper functioning is dependent upon money and prices. Not only is all of our economic activity expressed in terms of money and prices, but money and prices largely determine our economic behavior. All goods produced and all services rendered (with minor exceptions) are done so with the purpose of showing a profit in terms of money. About
three-fourths of the people of this country receive their income in the first instance in the form of money. Finally, nearly all the economic obligations in our society are undertaken in terms of money and are discharged by payment of money. With this almost universal dependence upon money and prices for the proper organization of society, a satisfactory money system becomes of extreme importance.  

The Function of the Monetary System.

It is the function of the monetary system to determine the volume of production, the apportionment of the productive resources among the various industries, the distribution of real income among the various cooperating factors of production, and the utilization of this income in the consumption and investment. The monetary system regulates not only the volume (with certain glaring exceptions such as the case of agriculture), but also the kind of goods and services produced. It also determines the exceedingly numerous alternative uses to which the productive resources of the community can be put. Money performs these functions thru the price system, that is, the guidance of economic behavior by reference to prices.

Price Declines and the Economy.

This function of money can be efficiently discharged only when its purchasing power is secured against violent change.

In 1931, the British government appointed a Committee of economists and monetary experts, called the MacMillan Committee, to investigate the causes of the depression. The findings of this body, embodied in the MacMillan Report, stated their conclusions as follows:

"Our view is that the price level is the outcome of the interaction between monetary and non-monetary factors and that the recent world-wide fall in prices is best described as monetary phenomena which has occurred as a result of the monetary system failing to solve a problem of unprecedented difficulty and complexity set it by a highly intractable non-monetary phenomena."¹

The cause of the fall in prices has been and still is the subject of endless debate. There are two main bodies of opinion; one holds that the fall in prices is mainly due to monetary causes; the other, that the disturbances which have caused the fall in prices are non-monetary in origin, including such factors as war debts, and changed relations between debtor and creditor countries, rapid technical changes in production both agricultural and industrial, general instability following the World War, the growth of tariffs and other barriers to world trade, rigidity of wage levels, and other costs.

The Effect of Prices Declining.

But prices having fallen, discussion as to the causes of the occurrence are academic as compared with a knowledge of the effects of the rapid decline upon the national economy, and more especially upon agriculture. The money medium operating through the price system, and spreading itself like a vast network throughout the entire system, is central in its ability to affect our entire economy. So long as there is the danger that price and production relationships, the distribution of real income among the various cooperating factors of production, and the utilization of this income in consumption and investment, may be upset by monetary influences, other measures to achieve a smoothly functioning economy are constantly in danger of being nullified.

Traditional economic theory rests upon one, among other major assumptions, that prices respond automatically without the intervention of any human judgment to variations in supply and demand of particular commodities in order to bring about a balance between the two. But this is hardly in accord with present-day reality or contemporary economic analysis. Prices today are deemed to be the resultant of a combination of many elements. They include: the supply of the commodity; the demand for the commodity; the supply of gold; the demand for gold; the supply of credit; the demand
for credit; the degree of arbitrary control exercised over a price by either the government or private monopolists; and also the speculative element of probable future conditions with regard to any of these contributing factors.

**Flexibility vs. Rigidity.**

With the transition of agriculture from a self-sufficient status to a capitalistic basis, that is, farm production primarily for exchange at a profit instead of for self-use, monetary policy became a significant course of action for the farmer. With the evolution of our national arrangement into a highly intricate exchange economy with money as the medium for consummating his transactions, he was drawn into the vortex of a price system with its discriminations, and also into the arena of price fixing or control where he was also worked against by having but little voice in the control of the price of his own products; while prices which he paid were, more likely than not, predetermined.

**Increasing Use of Credit Demands Price Stability.**

The utilization of credit by a business man or a farmer is predicated upon a promise to return at a future date an equivalent number of dollars, together with interest. This use of credit has been of increasing importance in the conduct of business. Expert testimony estimates that private debts in the United States had risen from $58,000,000,000 in 1912
to $170,000,000,000 in 1929, and that the total internal debts of the United States, including public as well as private debts, for the same years amounted to $63,000,000,000 and $203,000,000,000 respectively. This total internal debt of $203,000,000,000 was equivalent to 56% of the estimated national wealth for the same year of $362,000,000,000. When we realize that the debt and interest due thereon is a fixed obligation, whereas the goods or services which must be given in exchange for money to liquidate the contract fluctuate widely in their exchange value because of monetary conditions, the importance of monetary stability is recognized and the significance of the MacMillan Report becomes apparent.

This $203,000,000,000 of internal debt was made up as follows:

<table>
<thead>
<tr>
<th>National</th>
<th>$16,000,000,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>State, County and Local</td>
<td>$17,000,000,000,000</td>
</tr>
<tr>
<td>Corporations</td>
<td>$76,000,000,000,000</td>
</tr>
<tr>
<td>Urban Mortgages</td>
<td>$37,000,000,000,000</td>
</tr>
<tr>
<td>Bank loans</td>
<td>$42,000,000,000,000</td>
</tr>
<tr>
<td>Farm Mortgages</td>
<td>$9,000,000,000,000</td>
</tr>
<tr>
<td>Life Insurance Loans &amp; Premium Notes</td>
<td>$2,000,000,000,000</td>
</tr>
<tr>
<td>Retail Installment Paper</td>
<td>$3,000,000,000,000</td>
</tr>
<tr>
<td>Pawnbrokers and similar loans</td>
<td>$1,000,000,000,000</td>
</tr>
<tr>
<td></td>
<td>$203,000,000,000,000</td>
</tr>
</tbody>
</table>

1. Hearings before the Committee on Banking and Currency, United States Senate, 72nd Congress, 1st Session, on H. R. 11499 and S4429, p. 61, May 12, 1932.

While the amount of indebtedness of farmers in actual figures is much smaller than amounts in other categories, the impact of deflation is more severe in farming than in the larger ones because under conditions of falling prices farm prices fall more rapidly and further than do other prices and because farmers lack any production control or price fixing policies or exercise any degree of monopoly price control in their operations.

The following table contrasts the rigidity of farm mortgage debt with falling prices.¹

<table>
<thead>
<tr>
<th>Farm Mortgages</th>
<th>Farm Prices 1910-1914 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>1910 $3,320,000,000</td>
<td>103.0</td>
</tr>
<tr>
<td>1920 7,058,000,000</td>
<td>205.0</td>
</tr>
<tr>
<td>1925 9,360,000,000</td>
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<tr>
<td>1930 9,241,000,000</td>
<td>117.0</td>
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<tr>
<td>1932 9,000,000,000</td>
<td>57.0</td>
</tr>
</tbody>
</table>

In other segments of the economy the interaction of rigid controlled prices and flexible, free, farm prices is the same as above. Rapidly increasing taxation resulted in the farmer paying $901,000,000 in 1927, of which $755,000,000 or 83.8% was in general property taxes which do not decline very much, if ever, as farm prices drop. For products which

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1. Technical Bulletin #288, Bureau of Agricultural Economics, Department of Agriculture.

are sold by public service corporations at government controlled prices, Americans spend $12,245,000,000 a year.\(^1\)

Railroad rates form another rigid price group with which the farmer has to contend. In the railroad industry, labor through its unions is more firmly entrenched than it is in any other industry. The firmness of railroad labor wage rates and salaries is translated into relatively fixed freight rates. From 1920 to 1926 about 80% of all income realized from railroad transportation, which was not paid to other industries, such as the coal industry for fuel and to the government in taxes, was paid out in wages and salaries.\(^2\)

**Commodity Prices and Gold.**

In 1902 the United States Bureau of Labor Statistics began the publication of a monthly index number which represents very accurately the general trend of wholesale prices in the United States. Beginning in 1926, the index is based on prices of 784 commodities and shows the rapid and severe decline in the general price level since that time. The record for the intervening years to date is as follows: \(^3\)

<table>
<thead>
<tr>
<th>Year</th>
<th>Index Number</th>
</tr>
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<tbody>
<tr>
<td>1926</td>
<td>100.0</td>
</tr>
<tr>
<td>1927</td>
<td>99.4</td>
</tr>
<tr>
<td>1928</td>
<td>102.4</td>
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<tr>
<td>1929</td>
<td>97.3</td>
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<tr>
<td>1930</td>
<td>91.8</td>
</tr>
<tr>
<td>1931</td>
<td>66.6</td>
</tr>
<tr>
<td>1932</td>
<td>54.3</td>
</tr>
</tbody>
</table>

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Conditions of an economic nature focussed attention upon the cause of this price decline. George F. Warren, Professor of Agricultural Economics and Farm Management at Cornell University, and Frank A. Pearson, Professor of Prices and Statistics at the same institution, have developed the thesis that there is a broad relationship between the value of gold and the commodity price level. After intensive research they are convinced that commodity prices tend to vary inversely with the value of gold. The value of gold, if what they say is true, is set by the demand for it in relation to the available supply and current production, in addition to the volume of transactions which it is required to execute. In support of this theory they offer as evidence the following figures:¹

<table>
<thead>
<tr>
<th>Commodity</th>
<th>June '29</th>
<th>June '31</th>
<th>Percentage increase in value of gold</th>
</tr>
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<tbody>
<tr>
<td>Corn</td>
<td>.92</td>
<td>.57</td>
<td>61</td>
</tr>
<tr>
<td>Wheat</td>
<td>$1.22</td>
<td>.75</td>
<td>63</td>
</tr>
<tr>
<td>Hogs</td>
<td>$10.66</td>
<td>6.50</td>
<td>64</td>
</tr>
<tr>
<td>Cotton</td>
<td>.188</td>
<td>.084</td>
<td>124</td>
</tr>
</tbody>
</table>

These statistics appear to bear out this contention and the history of the increase of demand for gold by nations adds additional support.

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</table>

The table above shows the results of the experiment. The values in the table represent the measurements taken under different conditions. The first column lists the conditions, while the subsequent columns display the corresponding results. The data was collected using precise instruments to ensure accuracy. Further analysis of the data is ongoing to draw more comprehensive conclusions.
With the restoration of peace after the World War, one after another the various countries began to move toward a re-establishment of the gold standard which had been suspended during hostilities. Sweden returned on April 1, 1924; Germany in the autumn of the same year; England and the Netherlands on April 28, 1925; Belgium, October 25, 1926; Italy, December 22, 1927; and France June 25, 1928.¹

Subsequent to re-establishment of the international gold standard, the trend toward economic nationalism intensified the demand. Fantastic trade barriers, vast international public and private debts, great monetary losses, all made it desirable for each country to hold high gold reserves so as to be ready for an international run on the gold supply, such as occurred from 1929 to 1932.²

Since 1834, except during the Civil War when its price was not fixed, gold has been priced at $20.67 per ounce by law regardless of the supply for it or the demand for it. Although a legislative act may fix the price of gold, that is, may name a given weight of it as one dollar, it cannot fix the value of it. The value is set by the impact of demand and supply. It was this discrepancy between the price of our gold as set by law, and the value, as set by world market conditions, which made it desirable for people to convert their currency into gold.

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². Ibid., p.367
Resulting Maladjustments.

The inevitable deflation which occurs as the value of gold increases with the accompanying decline in the general price level would not be serious if all prices declined together and if there were an automatic proportionate decrease in amounts due on debts. Prices, however, vary widely in the degree of descent which they experience; and the consequent maladjustments in the price structure is a serious impediment to normal business. Since agricultural prices decline more than other prices when deflation sets in, any governmental action to correct the effect of price declines is of particular importance to agriculture. The following table epitomizes the price maladjustments which have resulted from deflation.¹

### Price Maladjustments - Selected Indexes

<table>
<thead>
<tr>
<th>Year</th>
<th>Prices Rec'd by Farmers</th>
<th>Prices Paid by Farmers</th>
<th>Farm Wages</th>
<th>Industrial Wages</th>
<th>Freight Rates</th>
<th>Cost of Distributing Food</th>
<th>Taxes</th>
<th>Mortgage Interest</th>
</tr>
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<tbody>
<tr>
<td>1926</td>
<td>136</td>
<td>153</td>
<td>171</td>
<td>238</td>
<td>148</td>
<td>192</td>
<td>234</td>
<td>247</td>
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<td>1929</td>
<td>138</td>
<td>152</td>
<td>170</td>
<td>245</td>
<td>155</td>
<td>198</td>
<td>243</td>
<td>231</td>
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<td>1930</td>
<td>117</td>
<td>144</td>
<td>152</td>
<td>248</td>
<td>153</td>
<td>196</td>
<td>240</td>
<td>221</td>
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<tr>
<td>1931</td>
<td>80</td>
<td>124</td>
<td>116</td>
<td>247</td>
<td>144</td>
<td>178</td>
<td>220</td>
<td>215</td>
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<tr>
<td>1932</td>
<td>57</td>
<td>107</td>
<td>86</td>
<td>216</td>
<td>153</td>
<td>191</td>
<td>207</td>
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<tr>
<td>1933</td>
<td>63</td>
<td>109</td>
<td>80</td>
<td>207</td>
<td>140</td>
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<td>170</td>
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To force or await reduction of other prices to the low levels of raw commodity prices would be a long-drawn out, if not an impossible task. Economists estimate that this process of adjustment would take twenty-five years. If this course

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were pursued, most of the existing internal debts would have been liquidated by the exchange of more goods and services than was contemplated at the time these debts were incurred. Aware of the practical difficulties of automatic adjustment to the lower levels, monetary policy has aimed at reflation by an expansion of the supply of our circulating media, relative to demand through governmental spending, with the objective of restoring the price level which existed in 1926. This was the level at which, Warren and Pearsons have decided, debts can be liquidated and the price structure can function with approximate maximum economic justice to all groups. Ever since March 1933 this has been the definite policy of the government.

A partial measure of success has been achieved to date. With the 1926 price level as 100, the trend has been as follows since 1932:

<table>
<thead>
<tr>
<th>Year</th>
<th>General Price Level Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1932</td>
<td>54.3</td>
</tr>
<tr>
<td>1933</td>
<td>62.1</td>
</tr>
<tr>
<td>1934</td>
<td>71.8</td>
</tr>
<tr>
<td>1935</td>
<td>77.4</td>
</tr>
<tr>
<td>1936</td>
<td>82. - (estimated)</td>
</tr>
</tbody>
</table>

Demands for Inflation.

While the government devoted itself to a readjustment of the price level to a more equitable base, the clamor of debtors generally and of farmers in particular for the raising of the general price level by an irrational issuance of paper money came to naught. In 1932 the Goldsborough Bill, to restore the pre-depression price level by increasing the volume of currency, passed the House 5 to 1, but never reached the Senate. The Thomas Amendment, 1933, to the Agricultural Act, empowering the President to increase the printed currency of the nation by $5,000,000,000 was never taken advantage of. Two years later when the Patman-Greenback Bonus Bill passed both branches of Congress, it was vetoed by the President. The House voted to override his veto, but the Senate sustained him in his decision. During the same year the Frazier-Lemke Bill, to refinance farm mortgages by the issuance of paper money, was defeated after the message of President Green of the American Federal of Labor, read in Congress, urged its defeat because, as he said, "when prices rise, the cost of living moves higher and before wages increase." With rising prices and a declining disparity between prices, much of the agitation for inflation has vanished. Indicative of the position which the Administration has taken on the question of sound money is the expression of the President, who on May 7, 1933 said:

"The Administration has the definite objective of raising commodity prices to such an extent that those who have borrowed money will, on the average, be able to repay that money with the same kind of dollars which they borrowed.

"We do not seek to let them get such a cheap dollar that they will be able to pay back a great deal less than they borrowed.

"In other words, we seek to correct a wrong and not to create another wrong in the opposite direction."

**Governmental Activities.**

In connection with the problem of restoring the internal price structure for the purpose of maintaining the proper production, distribution, and utilization of the national income, the Administration embarked upon a gold buying program and a silver buying program, as well as a new policy with regard to the American monetary system in its relation to the monetary systems of other countries.

Government buying of the "money metals" was designed to increase the purchasing power of foreign countries as well as of domestic producers. It was also expected to be a contributing factor in raising the price level in the United States. The policy of gold buying was generally attributed to Professor Warren, who believed that it would raise prices in the United States by lowering the valuation of the dollar in terms of foreign currencies. The severest critic of this program was John Maynard Keynes, who did not believe that there was any mathematical relation between the price of gold and the price of other things. He believes its most direct
effect would be on the price of exports and imports.

More important to us was the fact that the government was itself becoming a factor in the money equation. Money designed primarily as a transportation system which facilitates the movement of goods was now being used as a substitute for productive effort.

Gold Buying Program.

The gold buying program was initiated to increase the existing supply of dollar exchange by the government, offering dollars at a discount in exchange for gold. During 1934 over one billion dollars was imported into this country under government purchasing operations. But while the gold buying program was directed at improving the purchasing power of Great Britain, the silver purchasing program was designed to "restore the monetary standard of one-half the world and to raise the purchasing power of the Orient".

Silver Purchasing.

The result was actually the opposite of that intended. Put forward on the theory that it would "remonetize", it actually succeeded in demonetizing it in Mexico and elsewhere and in driving off the silver standard the only important country, China, which had previously been on it. Similarly, within the country, despite large-scale operations involving half a billion ounces of silver, the report of the Department of Commerce said, "The silver policy of the Federal Government
had no appreciable effect upon the domestic monetary or credit system.\(^1\)

Credit Control.

Because credit, as well as currency, gold, and silver, forms a vital part of our monetary system, the government has likewise instituted action designed to gear the volume of credit to business activity and to insulate it from conditions which would cause the volume of credit to fluctuate away from the volume and velocity of business.

The Federal Reserve Banking System was originally designed to increase the supply of bank credit when business was increasing and reduce the supply of credit when business declined. It set up a system of reserve requirements which make the volume of bank credit, and therefore money, tend to go up or down automatically with the volume of business. By lowering or raising rediscount rates, open market operations to vary the volume of available reserves, and lowering or raising the reserve requirements, the reserve banks have been able to exercise control of a negative character over the volume of credit to insure the proper amount.

The Federal Reserve System only supplies the framework within which individual banks seek their own profits and create money in the process. Within certain limits, each bank is free to create or refuse to create loans or deposits

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according to the business judgment of the individual banker. Actually, therefore, government control is of a negative character.

The inflow of more than $3,000,000,000 of gold since revaluation caused by far the larger part of excess reserves in Reserve Banks which had accumulated in recent years, although the easy money policy of the Reserve Banks was a contributing factor. Effective August 15, 1936, reserve requirements of member banks comprising about 80% of the commercial banking strength of the country were raised 50%, thus reducing the excess reserves from an estimated $3,400,000,000 to $1,950,000,000. So long as the banks have excess reserves over and above their legal requirements, they are not merely free to expand their credit, but are also under a strong profit incentive to do so. In deciding upon this action, the Federal Reserve authorities have carried the operations of credit control farther than ever before. They were establishing a new precedent which may be of great importance in the future.¹

Other legislation tended in the direction of transferring credit control from the bankers to the government. A new amendment to the Federal Reserve Act effected a removal of authority to a Board of Governors in Washington with the purpose of forming a "Supreme Court of Credit" free from

¹. Article in New York Times entitled "Credit Inflation Curb Opens an Experiment", by Elliott V. Bell, July 6, 1936.
domination by a President or by the private bankers. With this procedure Congress has worked a basic change in the nation's banking structure for the first time in twenty years.

Other Credit Controls.

The Securities Act of 1933 was a step toward control of security issues. It required full information for the benefit of prospective investors to be filed with the Federal Trade Commission. The Fletcher-Rayburn Act of 1934 established a Securities and Exchange Commission with complete control of the issuances of capital issues, and set stock market margin requirements at 45%. Our gold supply was disqualified as a monetary base for internal purposes and "sterilized" to avoid the pressure which such a supply of gold might possibly have upon the price level. The Federal Deposit Insurance Corporation was organized to insure depositors in banks from loss due to bank failures, and the threat of runs on banks in the future was mitigated.

International Monetary Policy.

But a policy of monetary and credit control must face the reality that through trade, travel, investments, and other connections the American national economy is geared to world economy and that our internal price and money system must be insulated from international influences if any form of

efficient control within the United States is to be achieved.

In sharp contrast to the policies of prior administrations, which concerned themselves primarily with stability of international operations, was the international monetary policy of President Roosevelt. At the London Economic Conference both England and France had attempted to draw the United States into a scheme for international exchange stabilization which would have implemented their policies of exchange manipulation solely for their own purposes. In a message addressed to the London Conference, the President declared that henceforth the United States would no longer be concerned with the foreign exchange value of the dollar, but rather with the purchasing power of the dollar in terms of the American price level. He intended to prefer a stable domestic price structure to a stable international exchange rate. The departure from the gold standard and the revaluation of the dollar at a much higher level helped neutralize the effect of depreciated currencies upon our export trade. No doubt existed that depreciated currencies of Egypt, South Africa, India and Brazil had injured our cotton selling abroad and that the same condition discriminated against our export of foodstuffs.

With the profit obtained from the revaluation of the dollar, a stabilization fund of $2,000,000,000 was established and the Treasury Department commenced international exchange operations to checkmate British and French attempts at deliberate
currency depreciation. Within the past year these three nations have agreed not to seek to obtain an unreasonable competitive exchange advantage. The international aspects of the monetary equation, one of the major factors in our economy, has been successfully interrelated with domestic conditions.

Effect of Money Policy Upon Agriculture.

Since farm prices are determined in an uncontrolled market and are often a world price, they are more exposed to fluctuations due to world conditions than are the relatively rigid administered prices of other segments of the economy. The monetary measures recently enacted will benefit agriculture to a greater extent, consequently, than they will others, although all must benefit in the resulting general improvement.

LAND POLICY

Within the past few years, government has developed a land policy which completely reversed its traditional attitude in this respect. Early in our history, with the central government assuming sovereign control over the entire free lands by purchase, cessation, or other acquisition, there was inaugurated the practice of disposing of the public domain as rapidly as possible, encouraging rapid development and maximum utilization. Exploitation was the order of the day.

With the party of Hamilton in power, early governmental policy was directed toward sale of the public domain for
revenue only, in large blocks to speculators. Driven from
power by the party of Jefferson, sale was on the basis of
nominal fees, for development, to actual settlers in small
parcels. The actual sales were made by the government agents
upon the land in question. But whatever actual government
policy exists today stems from the Homestead Act of 1862 and
the Reclamation Act of 1902.

Federal Reclamation Projects.

Since 1902 the Federal Government has been engaged in
the reclamation of tillable land as a self-supporting and self-
liquidating venture. Previous to this act the government had,
by the Homestead Act of 1862, offered free land to those who
would live upon it.

By 1932 there were 177,281 persons living on 42,568
farms in irrigated by Federal plants. Two hundred seventy-
seven towns and small cities had been developed with a
population of 514,425; 732 schools, 778 churches and 120
banks (with a capital and surplus of $116,484,236) were in
existence all growing out of government reclamation activities.
The cumulative value of crops produced in Federally reclaimed
areas between 1906 and 1931 was $1,235,689,877. Still, from
its economic and social results, reclamation has fallen far
short of the higher aspirations of those who have fathered
the movement.1

1. Warren M. Persons, Government Experimentation in Business,
p.130, JohnWiley and Sons, New York, 1934.
In November, 1933, four projects had been abandoned, and of the total thirty-five, not one of these projects had yet returned the entire cost of the total construction to the Federal Government, as was provided by the Reclamation Act.  

A Changing Viewpoint.

The economic loss which accrued to the nation through exhaustion of the soil, our most valuable natural resource, the terrible social and economic waste which comes from having families existing on land not sufficiently fertile to offer a fair degree of comfort, the general waste which comes to our natural assets through planlessness, was actively recognized by the national government since the turn of the century and particularly since the New Deal Administration was inaugurated.

Under the leadership of Theodore Roosevelt 160,000,000 acres of western public land were withdrawn from entry and set aside as great national forests. Places of great scenic beauty were reserved as National Parks. More recently, year by year, we have appropriated money to buy new land to incorporate in the national forests. During the first twenty-two years of the operation of the Weeks Forest Purchase Act, 4,700,000 acres of forest land were acquired by the government for supervision and protection from erosion. During the first

1. Ibid., p.134
year and one-half of the present administration, this twenty-two year total has been slightly exceeded.

Soil Erosion Control.

The Soil Erosion Control Service, a new agency recently established in the Interior Department (August, 1933) and operating with a $20,000,000 allotment from the Public Works Administration, is now proceeding with actual field work of controlling erosion on a number of large representative areas throughout the nation. The size of these demonstration areas ranges from about 100,000 acres to 15,000,000 acres. To date thirty-two soil erosion projects have been established. These undertakings are intended to demonstrate to farmers and land owners the best tried and approved methods of checking the different farms of soil washing.

The practical value of this work may be measured when we consider that 125,000,000 of the 350,000,000 acres now in cultivation in this country are a natural liability and not an asset, due solely to erosion, because what they are producing in addition to sub-marginal crops, are sub-marginal citizens.\footnote{1}

Withdrawal of Submarginal Lands.

More important in its reaction upon the agricultural economy of the future than any other governmental land policy of the past, is the planned withdrawal of private lands from

\footnote{1. Owen P. White, \textit{All Washed Up}, p.6, Colliers, September 29, 1934.}
private ownership and cultivation and retention of ownership and control by the government.

In 1929 nearly half of the nation's 6,000,000 farmers produced less than $1,000 worth of products, including all that was consumed on the farms. The detailed figures for 1929 are as follows:

<table>
<thead>
<tr>
<th>Number of Farms</th>
<th>Percentage of all farms</th>
<th>Value of Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,000,000</td>
<td>6.6</td>
<td>up to $250.</td>
</tr>
<tr>
<td>5,184,000</td>
<td>8.6</td>
<td>$250. - $399.</td>
</tr>
<tr>
<td>7,66,000</td>
<td>12.7</td>
<td>$300. - $599.</td>
</tr>
<tr>
<td>1,264,000</td>
<td>21.8</td>
<td>$500. - $1,099.</td>
</tr>
<tr>
<td>938,000</td>
<td>15.6</td>
<td>$1,000. - $1,499.</td>
</tr>
</tbody>
</table>

Many of these farmers had meager holdings. About 2,100,000 had from one to sixty acres per farm.

The National Resources Board was created by Executive Order on June 30, 1934 to prepare and present to the President a program and plan of procedure dealing with the physical, social, governmental, and economic policies for the development and use of land, water, and other natural resources.

In the report of this newly created body, after a nation-wide survey of farms, it proposed for retirement some 450,000 farms, including 75,000,000 acres of land, of which 20,000,000 million acres were in croplands, 35,000,000 acres in pasture land and 20,000,000 acres in forest and wood land.

1. R. G. Tugwell in Today, January 20, 1934
Under the Agricultural Adjustment Act there was a horizontal cut of 40,000,000 acres of crop land on 3,000,000 different farms, and good land as well as bad land was being taken out of use. Economists pointed out that it would be better to purchase idle lands outright rather than to pay rent for their disuse year after year, and that the only long-time sound procedure was to keep the best crop lands in crops and the poorer lands out of cultivation.

From its very nature such a course of action would be social rather than economic in nature, but to improve the use of our human and natural resources is also an economic problem. People living on poor lands do not have much to sell. If we bought 100,000,000 poorest acres, we would probably not cut the total crop production of the United States 5%. The purchase of sub-marginal lands is not linked with the problem of surplus control.

Beginning a Land Program.

At the recommendation of the National Resources Board on February 9, 1935, all remaining public land was withdrawn from use. This order completely withdrew from settlement, sale or entry, the entire 165,695,000 acres of public domain. A few months previously, in November 1934, under the Taylor Act, 30,000,000 acres of land were made possible for segregation as permanent live stock grazing areas.¹

¹ From an uncredited article in the New York Times, "All Public Land Barred from Use", February 9, 1935.
Of the $4,000,000,000 work relief program fund, $900,000,000 was appropriated for a land use and rural rehabilitation program. In pursuance of the object for which it was created, the Rural Rehabilitation Administration started with the avowed purpose of taking 25,000,000 acres of sub-marginal land out of cultivation. Now it admits it may be lucky if 10,000,000 acres can be taken out with the money available. Unwillingness of the owners to sell and the exorbitant price asked by the willing sellers have been the main obstacles to success.

Relation of Public Land Policy to Agriculture.

While elimination of sub-marginal lands will not of itself solve the surplus problem of domestic agricultural production, it will retard agricultural expansion while demand overtakes supply. Moreover, the development of a definite policy of removing sub-marginal lands from agriculture will lend itself increasingly to the mobility of population between city and country and would help to restore and maintain a better economic balance between agriculture and industry.  

Also if we do not regain our foreign markets and it becomes necessary for us to operate on a nationalistic basis, removing immense areas of land from crop production, this additional instrument for government planning and control may be of immense value.

FOREIGN TRADE POLICY

The Tariff in American History.

Foreign trade rests upon the vital principle that a higher standard of living is obtained by the interchange of goods between both men and nations. Since men and nations vary in their aptitudes and resources, any system which permits specialization in a particular field by those best qualified for the task is bound to achieve greater, long-time, all-round results.

While this was a generally accepted economic ideal, in practice the trend was in the opposite direction. Nationalistic policies reinforced by the profit motive of business men has prevented the full application of the principle of free trade.

Almost from the time we became a separate nation, we have had tariffs on imports from foreign countries. Although in the early part of the nineteenth century, Alexander Hamilton in his noted "Report on Manufactures" advocated the placing of a tariff for the protection and encouragement of native industries, the question of tariffs did not become an important issue until the time of the Civil War. Industry had by this time acquired the ability to stand on its own feet, but it was loath to relinquish the monopoly upon the home market which the tariff afforded.

While industry was emerging from its embryo stage, the planting interests of the South had developed an extensive export trade and were aware in a practical way of the advan-
tages of a free market in which to spend the proceeds of their sales abroad. The demands of the South for free trade were not granted and the Civil War was fought. With the North emerging victorious, the tariff was raised to new heights and national banks were established. Capitalism flourished.

**Historical Function of Agriculture in Foreign Trade.**

For the next sixty years, American agriculture was both the tool and the victim of American industrial capitalism and American finance capitalism. It was the tool of capitalism because in its flourishing export trade it furnished the means whereby this country paid for the imports of foreign capital necessary to a rapid development of the resources of the country. From 1820, when cotton first assumed an important position in the national economy, to June 30, 1932, exports of raw cotton from this country totalled $30,231,376,000 according to a compilation from the Statistical Abstract of the United States for 1933. This was 22.25% of the total exports of $139,162,288,000 during the same period. At the same time it was the victim of capitalism because capitalism in its progress was evolving a technique of economic control and monopoly power; while agriculture remained inert and voiceless, as eventually to dominate the operation of the national economy and to strongly influence governmental policies. The farmer sold his goods in a free market and purchased in a protected market.
The post-war foreign economic policy of the country strikingly emphasizes the dominant power of the industrial and banking elements as against the general interests, and particularly the agricultural interests of the country.

Up until the time of the World War we were a debtor nation, but we emerged from the chaos as the outstanding creditor nation of the world, thanks chiefly to heavy foreign loans by both the American government and private investors. The war completely disrupted the normal processes of production in the belligerent countries and at the same time created an extraordinary demand for war materials. The United States became the chief source of supply for such materials and our exports increased by leaps and bounds. American producers who supplied these goods, of course, had to be paid. In the absence of a corresponding increase in sales of merchandise and services to the United States by other countries and of adequate stocks of gold available for export, payment for a large part of our exports could be made only from the proceeds of loans or by the resale of American securities abroad.

On the other hand, the volume of imports remained at about the pre-war level, although the rise in prices caused some increase in value. The net result was an excess of merchandise exports (including silver) over imports of $15,974,000,000 for the period July 1, 1914 to December 31, 1919, a sum 36% greater than the aggregate favorable trade balance for the period 1873 - 1914.1

POST-WAR FOREIGN POLICY.

Emerging as we did a creditor nation, American industrialists refused to recognize the need of adjusting our policies and internal organization to our changed position with regard to other nations. Even the most enlightened opinion of economists and statesmen could not bring them to face this fact. When President Wilson returned the Emergency Tariff Bill of 1921 unsigned with the warning that a creditor nation must expect to take imports in trade, the tariff was passed over his veto. Later on the Fordney-McCumber Tariff was levied and in 1930 the Hawley-Smoot tariff was the latest tariff enactment directed at the reservation of the home market for American producers.

During this same period, partly as a result of the Dawes Plan which restored confidence in Germany, and partly as a result of the immense move toward cheap money and bank expansion, which grew out of the Federal Reserve policy in the years 1924-27, our foreign loans continued. The funds borrowed were used in part to purchase goods in America, for investment here in American securities, or for creating balances in American banks. Thus for a time, the appearance of prosperity in continued exports and a stock market boom, concealed the major defect of our position.

With the depression of the thirties, our foreign capital relations had a disturbing influence upon our national economy. American securities held by foreigners were dumped upon the markets and the proceeds of their sale and foreign bank balances
were withdrawn in the form of gold. Our failure to behave as a creditor nation should accelerated a trend in another direction - economic nationalism - which commenced shortly after the close of the War.

**Economic Nationalism.**

Some countries faced with the difficulty of balancing international trade under modern conditions and the problem of relating the internal and international aspects of their economies have resorted to a program of economic nationalism. They have tried to minimize international influences by making their own countries as self-contained as possible. Such a program sacrifices the real advantages of international trade and the higher standard of living made possible by the international division of labor, but it allows the particular country to deal with its internal economic problems and avoid the impact of foreign developments i.e. trade, capital, and gold movements.

American foreign policy was not entirely unconcerned in the reaction which its conduct might have upon world relationships. For fear that the encouraging of dumping of our agricultural surpluses upon world markets would accelerate the trend toward economic nationalism and diminish the possibility of loan and exports of manufactured goods, the industrial and banking elements took pains to see that no subsidy was granted to agricultural exports.
The Tariff and Agriculture.

The tariff policy of the nation affected agriculture and industry in different ways. From the standpoint of the tariff, agricultural commodities may be divided into three groups:

1. Those produced exclusively for domestic consumption, such as dairy and poultry products, oil seeds, vegetable products, hides and skins.

2. Those produced in excess of domestic needs such as wheat, corn, cotton, pork, beef, tobacco and rice.

3. Those which are not produced in sufficient volume to supply the domestic demand and which are imported, such as sugar, coffee, wool, flaxseed, cocoa, tea, rubber, silk, certain citrus fruits and certain vegetables.

Since a scarcity does not exist in group (1), production being equal to demand, a tariff has not been able to operate effectively in raising prices. In group (2) the price obtained is the world price and obviously the tariff has no effect upon their prices. The tariff, however, may act as an embargo. In group (3) a tariff revision is immediately reflected in prices.

The number of farmers engaged in production of commodities which are on an import basis is small in comparison with those in other branches of agriculture. In the main, the beet-sugar growers and sheep raisers are about the only
group which would be materially assisted by tariff increases, and they form only a small portion of the farming population. In fact they are the only important group of industrialized, corporation farmers in the United States.

From 1921 to 1929, with the nations of the world attempting to attain self-sufficiency in foodstuffs and raw materials, the return of acreage withdrawn from production during the War and the appearance in world competition of newly opened farm lands, our agricultural exports found it increasingly difficult to be absorbed in world markets and our surplus products began to glut the domestic mart. Agitation developed, sponsored by the 'farm bloc' in Congress for some device which would make the tariff effective on the class of products which we grew upon an export basis, removing the surpluses which were piling up at home from the domestic market. Of the many schemes proposed to accomplish this end, the Equalization Fee Plan and the Export Debenture Plan received the most serious attention and support.

The Equalization Fee Plan contemplated the creation of a government export corporation whose function would be to buy the exportable surpluses at world prices plus tariff and sell it abroad at world prices. The loss suffered by the corporation is made up by collecting an "equalization fee" which would be assessed on every pound or bushel of those crops included in the "export basis group" when and as sold by the farmer.  

2. Annalist 33:931-2, May 24, 1929
In the meantime, the domestic price of the commodity will have risen to world price-plus-tariff because of the removal of the pressure of the surplus upon the United States price. The vital part of the plan was that it would pay to take a loss on the surplus dumped on the export market in order to force up the price of the major portion of the annual production which is sold within the United States.

The Equalization Fee Plan first appeared in a pamphlet, October, 1922, addressed to President Howard of the Farm Bureau Federation. The article bore the names of George N. Peek and Hugh S. Johnson as authors. It was first incorporated into legislative proposals in the McNary-Haugen bill introduced into Congress January 10, 1924.¹

Under the provisions of the Export Debenture Plan, the exporters of those farm products in which there is an exportable surplus, would receive federal treasury certificates or debentures having a face value determined by Congress and intended to equalize the differences in cost of production here and abroad. Such certificates would be negotiable at face value and would be accepted in payment of duties on goods imported to this country.

This plan was first brought to the attention of Congress in the form of the McKinley-Adkins Bill of January, 1926. It was sponsored by Professor C. L. Stewart of the University of Illinois, who derived it from the German Import Certificate system.²

¹ Ibid, p.232
Plans of this type were consistently vetoed by Presidents Coolidge and Harding because of the harmful reactionary possibilities they offered to our export trade in manufactures and our capital relations with other countries. When President Roosevelt came into office, the voluntary domestic allotment plan was put into operation through the Agricultural Adjustment Act. Under it the production goal of American farmers was domestic needs plus what could be absorbed without depressing prices on the world markets.

The dislocation to the American economy caused by foreign external influences was severe enough to cause many to ponder on the advisability of insulating our economy from the harmful effects growing out of our world relationships, in the form of trade, investments and loans, by adopting a policy of self-containment.

The United States is to a large extent self-contained and could go a long way toward throwing its system out of gear with the world economy without greatly lowering its living standards. Although there are a few of our manufacturing industries which would require readjustment if we were to follow the national plan exclusively, for the most part the burden of adjustment would fall on agriculture.¹

For the period 1921-1930 the average acreage devoted to exports amounted to 59,902,000 acres or 16.4% of the total acreage under cultivation.² But the problem of reducing out-

put to domestic requirements is not so simple as eliminating one-sixth or one-seventh of the total output. It means for cotton, one-half; tobacco, one-third; wheat, one-fifth; rice, one-fifth; corn, 14% to 9%.

To reduce output to national needs would mean a profound reorganization in the cotton, corn and hog, tobacco and wheat regions. Since our farmers are not able to follow the path of national isolation, they are vitally interested in the question of international competition.

New Deal Foreign Policy.

Under the Reciprocal Trade Agreements Act of 1934, the President was empowered to reduce up to 50% the existing tariffs to nations who would reciprocate. The Secretary of Commerce was authorized to execute trade treaties with foreign countries and to insert the "unconditional most favored nation clause" in each agreement. Under the provisions of this clause the United States guaranteed to each signatory country tariff rates as low as that extended to any country on the particular product.

This trade agreement program was the American effort to combat the growing tendency to close the channels of international trade. It equipped the United States with an effective tariff bargaining implement which brought this country into "realistic" trade relationships with other countries. So far fourteen trade agreements have been negotiated, which give us far-reaching concessions on scores
of agricultural products ranging as high as 50% to 60% in tariff-rate reductions, some complete removals of rates, liberalization of import quotas and other barriers.

These concessions relate to one-third of our normal farm exports to the fourteen countries involved. With respect to another third of our farm exports, pledges have been made to continue existing favorable treatment. Agreements include those with Cuba, Brazil, Belgium, Haiti, Sweden, Columbia, Canada, Honduras, Holland and Switzerland.1

George Peek, special foreign trade adviser to the President, has advocated major changes in our foreign trade policy. Instead of making a horizontal reduction in our tariffs, either through tariff legislation or generalizing tariff concessions under the trade agreements act, he advocates that this country should adopt a policy of selective imports and exports through making individual arrangements with individual nations, country by country. Recent figures show, so he claims, that there is no validity in the assumption that our buying abroad will cause similar purchasing here, for it is equally possible that the dollar exchange created abroad will be invested in securities here rather than expended for commodities. Since commodity movements are inter-related to capital movements, he recommends, in addition, arrangements whereby controls of the capital transactions as

well as the commodity transactions between nations can be put into operation. The Federal Reserve Banks, in cooperation with its member banks, are now laying the base for such a system of capital control between America and other countries through a system of statistics. Whether or not it will be put into operation depends upon future developments.
CHAPTER IX

CHANGING FUNCTION OF GOVERNMENT

Adam Smith and Laissez-faire.

In 1776, while the American colonies were embattled with England over the policies of British mercantilism and taxation, a book entitled "An Enquiry into the Wealth of Nations", written by Adams Smith, appeared in London. He espoused a principle of economic liberalism to displace the mercantilism prevalent as a system for the previous two centuries. Authoritative planning, which the mercantilists had considered an unquestionable necessity was to be displaced, according to his treatise, and replaced by the automatic functioning of free competition.

The famous laissez-faire doctrine, later called "free competition" and "individualism" embedded in his classic work, may be stated as follows:

"Nature provides for social progress by making every man anxious to better his condition; that while selfishly pursuing this aim, he is nevertheless guided by 'an invisible hand' to enhance the public good; that the interference of the government with his efforts in the name of that public good thus defeats its own objective; that the best policy is to avoid such interference because the results will tend naturally to produce progress and human liberty and hence public benefit."
The grafting of a theoretical pattern for an economy was very timely for nascent capitalism which turned to Adam Smith and his teachings for guidance.

**Automatic Adjustment.**

The "automatic adjustment" of the economic system to the separate activities of many people, each of whom is seeking his own profit, was to be effected through a system of prices determined by the natural law of supply and demand. Men would direct their energies and talents to producing those things which society needed or wanted most and which would be indicated by the opportunities for profit in that field. At the same time, the appearance of sufficient producers in the field would be signalized by declining prices and of opportunities for profit. If demand for labor, capital, or a commodity was great and the available supply of the particular labor, capital or commodity less than the demand, prices would rise; if supply exceeded demand, prices would decline. High wages would attract workers to that industry and if more workers were available than required, the wage paid would automatically fall. If capital was needed in a business, the interest paid for its use would vary in proportion to the available supply of money for investment in that business. If prices reflected sensitively the level at which producers were willing to buy, the right amount of the right products would be produced and sold and human labor and materials would be used in the most efficient manner.
Economic life was to be in large measure an unconscious thing, in the sense that no mind or group of minds would direct the whole picture. Intelligence was to run through it, but it was to be the intelligence of individuals seeking their own particular wages or their own particular profits, seeing their own sources of supply, seeing their own markets but not seeing with any great clearness the movement of the system as a whole.

The Old Economy.

Our economic and our political philosophy has in large measure been determined by our physical environment. America at the time of Adam Smith was an aggregation of loosely connected communities. Transportation was slow and hazardous, communication uncertain, education was uncommon. We had not even a dream of the Machine Age upon whose threshold we stood.

In a country which had known the tyranny of a distant despot, in a land where business units were small and individually owned, in an economy where competition was free and unimpaired and the central machinery of the market was uncontrolled, the teachings of Adam Smith found full acceptance in the economic beliefs of the colonists. Moreover, in framing the Constitution, the structural foundation of our government, pains were taken to preserve a maximum of freedom in the individual and a minimum of authority on the part of the government to interfere in the economic activities of its citizens.
The New Economy.

The drift of events was such, however, as to completely revolutionize the character of the national economy, and to change the nature of economic relationships among men. The development of an industrial civilization in place of the old agrarian way of making a living has impaired the mechanisms upon which the old system relied and has instead worked out a set of governing rules and regulations vastly more complex than those laid down in the days of Adam Smith.

With the series of inventions which began about the turn of the nineteenth century, such as the sewing machine, steamboat, locomotive, printing press, telephone and telegraph, and hundreds of others, the factory system of manufacturing with its sub-divisions of labor and its specialization of tasks took the place of domestic handicraft industry. Men, instead of remaining free economic agents in the market, became subject to the authority and direction of others, their employers. The multitude of individuals or small independent shops were replaced by a single large factory with managerial coordination within this larger unit. Instead of thousands of competing individuals, competition was between the smaller number of factory units. A measure of the concentration of economic power is available when we realize that in 1929 there were 2,713 factories employing 38% of the total number of workers and that 71% of the workers were employed in factories with 100 or more workers.  

But it was not only in the actual fabricating processes that centralized control as a feature of economic development was taking place. With the acquiring of legal recognitions, corporations developed a power of control over and above factory control that knew no bounds. The size of the efficient factory unit may be limited by the character of the different technical processes or by markets, but the size of the corporate enterprise can expand with the development of administrative technique. From about 1850 to the present, this growth of corporate control has continued by the tools of voting trusts, holding companies, subsidiaries, and the like. According to a study by Mr. Adolph Berle, Jr., one of the chief advisers to President Roosevelt, and Gardiner C. Means of Columbia University, 49.2% of the corporate wealth, and 22.0% of the national wealth was controlled by the 200 largest non-banking corporations in the United States on January 1, 1930.¹

Furthermore, superimposed upon the control of industrial workers through the factory system and of a major share of economic activity in general through corporate ownership, are legal devices such as management agreements, voting trusts, non-par stock, minority blocs and the like, which have divested ownership of the traditional right of control and placed this authority in the hands of executives who determine corporate

policy. Although the wide dispersion of shares among hundreds of thousands of stockholders is nominally an indication of economic democracy, actual control is vested in a small minority, or even in a board of directors. Of the two hundred corporations referred to above, eighty-eight are controlled by management without important ownership; forty-one are controlled by some legal device without important ownership; and forty-seven were dominated by policies of a minority of the stockholders. The total wealth of these three groups in which management was divorced from ownership was 75,900,000,000. Corporate development, impelled by technological advance and the factory system, has resulted in ownership of wealth without appreciable control, and control of wealth without appreciable ownership. The old economy idealized by Adam Smith, where each individual was laborer, owner, and manager of his own economic destiny, has given way to the new economy which separates the functions of labor, proprietor and director into separate categories. Here lies the crux of our modern economic problem.

The Effects of Monopoly.

With the growth of monopoly control, the automatic checks and balances of the perfect economic system envisioned by the classical economists, have largely disappeared. In the old economy no one held power and the automatic operation of the market was the determining factor of the conditions under

which activities would be carried out and not the decisions of individuals. Today the volume of operations of economic activity rests with the discretion of a relatively small number of men and they have been able to exert a dominating influence upon industrial operations, prices, and production. Policies have been substituted for the normal reactions of the old system. Whenever a large corporation has to choose between changing its prices and changing its volume of production, it makes most of its adjustments to changing economic conditions by changing the volume of production.

The theory of progress under capitalism furthermore contemplated the passing of improvements in industrial technique along to consumers by means of price reductions enforced through competition. Monopoly power has been able to avoid this. Since 1914 the average of wholesale industrial prices has been 67.3\% above pre-war prices notwithstanding the fact that since 1921 industry as a whole has been able to increase its efficiency 59\%.\footnote{Lewis F. Carr, America Challenged, p.24, Macmillan, N.Y. 1929.} Not only does monopoly seek to retain the profits of increased efficiency for itself through its ability to determine prices, but by curtailing its production it throws men out of work and creates a lack of purchasing power. And these policies are carried out despite the fact that we cannot run an economy of science, technology, and power production in low gear; that its nature is such that it must be run at full tilt and aspire for
mass production and mass consumption if its maximum efficiency is to be attained, and without apparent consideration to the fact that all our economic activity is geared into one system and that a stoppage at one point of the process spreads like an epidemic through the entire system.

Modern capitalism has in its march to power been able to put into practice policies which have impaired the system of controls, the automatic checks and balances upon which the laissez-faire order envisaged by Adam Smith rested. Free and absolute competition has given way to administrative competition. Prices are predetermined instead of the result of the impact of supply and demand and no longer fulfill their central function of unconscious regulation. The profit motive designed to produce national welfare has been the impelling motive for speculation, monopoly and exploitation. Executives who determine policies are not the ones who will bear the brunt of their decisions. Those who are most seriously concerned have no choice in the matter. From the national point of view, big businesses can become irresponsible while in a presumably economic democracy millions of people are voiceless.

The Twilight of Laissez-faire.

Twenty-nine depressions and twenty-eight periods of revival and prosperity have taken place in the United States since the year 1791. The depression which began in 1929, if

not the longest, has been the most severe in our history. Between July 1929 and April 1933 the decline in business was about 47%; in wholesale prices 40%; in unemployment 45%. Wages fell 60% in selected industries and the total labor income fell 40%. \(^1\) To attempt to definitely evaluate the many contributing causes of these depressions is to arouse endless debate. Translated in the light of existing economic philosophies, to some observers it meant that artificial disturbances were creeping into the economic system; to others, these depressions were the means by which automatic adjustments were brought about.

Regardless of the accuracy of either interpretation, we have come to the realization that the changing nature of our national economy has made it imperative that some form of conscious economic planning or control must take the place of the haphazard arrangement that has so long prevailed.

Our economy with its subdivision of tasks, its myriads of interrelations, its coast-to-coast net work interdependent business dealings, has lost its adaptive and absorptive qualities \(^2\) and can no longer be depended upon to continue upward of its own internal forces. However desirable individualism may have been as a useful economic creed in a pioneer nation, with land to be settled and frontiers to be

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conquered, our system has now arrived at a degree of maturity that requires a rule of action which lays emphasis on the relation of the part to the whole. We are now concerned with economic maintenance, not economic development.¹

Today the economy vitally implicates the whole mass of people.² With the processes of production and distribution operating on a large scale and over wide territories, it becomes absolutely necessary for some supreme authority to assume the function of directing, watching, stimulating, and restoring as the need may be. Laissez-faire has proven to be an aspiration unfilled and unfillable; a principle which has been allowed to govern some of the relations of economic life, but not all; a system of control fairly adequate for some purposes, but never all sufficient.³

Certainly if laissez-faire were fitted for the contemporary economic order, we would fail to observe any of the characteristics of the present — men, ready, willing, and able to work, without jobs; factories completely equipped but idle; capital funds in savings accounts piling up to record figures; highly concentrated wealth and control of property; highly diffused poverty and dependence. Laissez-faire and economic individualism were forms of economic planning which had their limitations with economic maturity. Today national economy is the controlling factor and concentration of responsibility in our modern economic society.

is indispensable to its efficient operation.

The New Role of Government.

Actually, however, a large amount of control has been vested in businessmen, bankers, and industrialists, but the depression raised the question of whether or not this power was used for the national interest. Sentiment developed increasingly for a transfer of this power of control from private hands to the government, the most powerful and all-embracing single agency of social control. Collectivism appeared on the scene.

It is generally recognized that the primary function of the State is to "maintain peace, order, and good government"; in other words, to preserve the status quo and protect property. Furthermore, part of the tradition of government in America—that government should "keep out of business"—has rested on the theory of automatic adjustments. It was assumed that any interference by government was obviously dangerous since it might prevent automatic adjustment in business conditions.

The first phase of free collectivism as practiced in this country has been regulation. It took the form of measures which set the limits within which private initiative was confined and fixed standards to which they must conform. It was based upon recognition of the fact that initiative may be evil as well as good and that it is the duty of the
state to encourage initiative when it is good and to discourage it when it is bad.¹

The American government has undertaken many types of regulation, among which the most important are: investigating businesses and requiring reports; controlling entry into business; regulating prices; regulating service and quality; preventing unfair discrimination; controlling monopoly and restraint of trade; preventing unfair methods of competition; regulation and promotion of aviation; regulation of telephone and telegraph communication; Federal control of railroads, utilities, radio and electricity; state regulation of motor busses and trucks, banking and insurance companies; and control of business through the Sherman Anti-Trust Act of 1890 and the Federal Trade Commission.

But regulation is essentially negative. It does not react to the vital defect of individualism which is that the multitude of individual decisions are not sufficiently enlightened to keep the economy as a whole in working order.² Our system has become so intricate that it now contains forces within it which may rise up and destroy it. Up until now, the government has never assumed a positive responsibility for making the economy function. The nature of the system today confers that new role upon government.

The New Deal and National Economy.

When the recent administration came into power it was faced with a choice of methods to be used in directing the operation of the economy. The traditions of the people with respect to the relation of the government to business commanded that something far short of the system diametrically opposed to laissez-faire, absolute collectivism or a 'directed economy' with the inevitable iron discipline that it entails, be used. President Roosevelt and the Congress invoked the method of free collectivism or a 'compensated economy'. Under the 'compensated economy' the state, while acknowledging its obligation for the standard of living and the economic order as a whole, preserved within very wide limits the liberty of private transactions.¹

Accordingly, it attempted to drive home to private enterprise an acceptance of the view that only when particular policies and business practices are in conformity to the law of general good, will private enterprise be able to preserve itself. The idea was advanced that capitalism could be brought under social control with a minimum of coercion and a maximum of persuasion of self-interest. Initiative was to be preserved, but subjected to responsibilities.

Faced with the practical realities of the situation, the New Deal pointed in another direction and through the N.R.A. and A.A.A. introduced administrative coordination

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where the market place failed to function. A conscious effort was made to keep the major producing groups - farmers, factory workers, and the service employees - in balanced income relationships toward one another so that they could more fully employ one another through interchanging the products of their labor. A deliberate attempt was made to redress the balance of private actions by compensating public actions. Government spending was stepped up while private activity was sub-normal and was tapered off when business activity recovered.

The method employed has been frequently branded "Socialism" because it represented a wide departure from the traditional role of government. Closer scrutiny reveals, however, that capitalism is no longer dependent upon the doctrine of laissez-faire for its continuance, but rather upon a rule of conduct that leads in another direction. To seek the acceleration of economic progress by means of compensations referred to above is not to attack the system of capitalism but rather to return to the very logic upon which that system was justified and extolled by Adam Smith and economists through the years when the system was assuming its present character.

The Limitations of Government Control.

The government, however, is by no means fully equipped to direct the national arrangement. The sub-divisions of power between the people, state governments, and the
Federal government, as well as the division of functions in the latter among legislative, executive, and judicial branches, originally designed to perpetuate political liberty, ironically enough today hampers economic control in the same name. The government possesses no authority, under recent decisions of the Supreme Court, to regulate hours of labor, wages, manufacturing and agricultural production or competition, except to a limited degree. What little is done in the way of control comes through a Congress composed of Senators and Representatives chosen on a basis of geographical representation, ignoring the fact that economic developments of the past one hundred years have economically obliterated state boundaries and that this form of representation is anachronistic.

Nor can relief from this dilemma be sought by appeal to the people. Americans are so imbued with traditions concerning our present governmental set-up and are so confident of the possibility of achieving a solution without radical alteration of its structure, that changes can be advocated only at the risk of losing political control. It may well be, therefore, that the government, charged by the people with responsibility for the efficient operation of the national economy, may look for its accomplishment outside of its own household.

With mass production, mass consumption has become important. Consuming power is the force which today causes
industry to operate. Organized consumer groups may be able to exert an organized influence upon the private policies of industry, agriculture, and finance with respect to wages and prices and thus accomplish what has been denied the government.
PART III

THE FUTURE POSITION OF AGRICULTURE

IN THE NATIONAL ECONOMY

In discussing the future position of agriculture in the national economy, it is well to reflect on the incisive criticism embodied in the following paragraph culled from a book by a well-known writer on economics:

"Those who raise the food we consume are indispensable to our existence. They are infinitely more important than soldiers. The latter merely indulge in the expensive and wasteful luxury of shooting to death those whom the nation thinks it hates; the latter constructively keep all the people from starving to death. Curiously enough, we provide a bonus and pensions for soldiers and keep in relative poverty and misery the farmers. In reality, every citizen owes a debt to the farmers who under present conditions might well be considered peace-time patriotic heroes."

It goes without saying that the farmers, as a class, are richly deserving of an opportunity to earn a livelihood, and that no stone should be left unturned to discover the reasons why this object is not realized. The first subject which will be analyzed is the export surplus and its

relationship to the farmers' financial straits.

The sudden collapse of prices at the conclusion of the World War left the agricultural industry with enormous surpluses of foodstuffs and an excess of many millions of acres of fertile crop lands. With prices constantly receding, farmers were plunged from comparative affluence into a condition of absolute want, which, except for some governmental help, has continued to the present day.

Referring back to 1921, the total acreage devoted to export crops reached a maximum of 80,202,000 acres, or 21.7 per cent of the total. In 1930, it had shrunk to a minimum of 47,272,000 acres, or 13.1 per cent.\(^1\) Notwithstanding that the American farmer is paying a much greater proportion of his dollar for commodities than he is receiving for his exports, he still goes on raising crops for the foreign markets.

Taken as a whole, there are some compulsory aspects to the situation, for the reduction of the acreage one-sixth or one-seventh of the total output is beset with many serious factors. Take cotton as an example: In the process of elimination the proportion of this crop would be exactly one-half. In tobacco, it would amount to one acre in three.

Of the other crops the ratios would be as follows: wheat, one acre in five; rice, one acre in five; corn, approximately 14 per cent.¹

Since approximately 90 per cent of the crops grown in the United States are utilized domestically, it should be comparatively simple to reduce the acreage of the other 10 per cent so that only enough would be raised to serve domestic needs. This, unfortunately, is not easy of accomplishment, for with export crops like cotton and tobacco, where such reduction plans were attempted, whole sections would be demoralized and vast numbers of people ruined financially.

If it is to be assumed that in the present state of agricultural economy, surpluses are inevitable and since the export markets cannot absorb these surpluses, what remedies can be applied to enable farmers to earn a livelihood from their industry? It does not seem possible to absorb these surpluses by the natural growth of population. Again perhaps the per capita consumption of foodstuffs can be increased. Surpluses might be reduced by taking submarginal land out of production. A final suggestion is to use the surplus lands for the planting of crops which are now imported from abroad.

Computations of the future population of the United States made by the Scripps Foundation indicate that a maximum of about 145,000,000 will be reached about 1970, and that from that time on the tendency will be for a decline.¹ This forecast does not augur well with the hope for natural absorption by means of increases in population.

Per capita consumption of foodstuffs could be increased if the underprivileged classes would be given an opportunity to earn more so that they could purchase. Henry Wallace, Secretary of Agriculture, in referring to the three and one-half million families who were receiving unemployment relief through public funds in the fall of 1933, said: "If these three and a half million families were able to eat as most of them probably did a few years ago, their food consumption would be double what it is today."²

The available facts disclose a situation confronting agriculture that is distinctly ominous. The per capita consumption of cereals has declined steadily for a number of years, approximately 37 per cent since 1900.³ Cotton consumption fell continually, the reduction in use being accelerated in 1930 largely because of a continuing decline


² News Release for Radio Broadcast Use by United States Department of Agriculture, October 18, 1933.

in its use for clothing. The per-capita consumption of potatoes declined from an average of 130 pounds a year during the years 1902-06 to 162 pounds during 1917-21, and 146 pounds during 1926-30.¹

The foregoing figures are an indication that the farmers of United States cannot rely on domestic markets in order to take care of their surplus products unless there is a radical distribution of the national economy so that increased purchasing power will create greater consuming power.

Huge quantities of dairy products imported into the United States each year directly add to the great domestic surplus. In 1924, fourteen countries imported butter into the United States — Denmark, 7,000,000 pounds; New Zealand, 4,000,000 pounds; Canada, 3,000,000 pounds; the remainder in lesser quantities. Cheese tells a similar story: Italy, 31,000,000 pounds; Switzerland, 14,000,000 pounds; France, 4,000,000 pounds, etc. The total butter import was 19,400,000 pounds and the import of cheese was approximately 60,000,000 pounds.²

Without discussing the relative merits of a high protective tariff, it seems passing strange that in a year

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when agriculture was in a most deplorable condition, it was possible to import into the United States 19,000,000 pounds of butter and 60,000,000 pounds of cheese which meant that the same quantity of the domestic product was deprived of its normal channels.

In regard to grain, a worthwhile suggestion has been made by Secretary Wallace, who favors a "normal granary plan", whereby the government will grant loans to farmers against grain withheld from the market and kept under seal. In order to participate in this plan, farmers must agree to a stipulated acreage.¹

Entangled with the domestic situation is a badly snarled export problem, especially in its application to cotton. In 193⁴, the domestic cotton crop was estimated at 9,500,000 bales. Added to the carry-over of 10,600,000 bales, it gave the United States a dominant statistical position.² This would have been excellent, but for the first time since the Civil War, the aggregate output of cotton abroad exceeded that of the United States. This was caused by the increase of the yield abroad and at the same time the sharp reduction of the domestic yield. Economic authorities have given expression to fears that if we allow the cotton growers abroad to obtain a wedge on trade which


2. Ibid., p. 7, October 29, 1934.
normally belongs to the United States, we will never have an opportunity to gain it back again. The belief has been expressed that "it would be considerably easier and more conducive to economic recovery and stabilization to facilitate the absorption of our excess products abroad than to disorganize completely our agricultural and industrial structure by attempting to adjust it to domestic requirements alone."\(^1\)

The future welfare of agriculture is a subject which has engaged the time and efforts of the ablest minds in the fields of economics and sociology. One fact is self-evident; that under our present capitalistic system, it is faring ill, with a gloomy outlook ahead for the next few years.

Even under the liberal Franklin Roosevelt regime, the efforts put forth are contradictory and in a few respects inimical to the interests of the farmers. For instance, at one and the same time the administration is

a. Paying millions of dollars to curtail production and destroy crops.

b. Building the Columbia River Dam to increase available farm land to the extend of millions of acres.

c. Setting up the unemployed as subsistence farmers.

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d. Aiding the farmers to increase their crops by more intensive scientific cultivation through free seeds and free advice from the Department of Agriculture.¹

Obviously, the foregoing plans are only makeshifts and are not meant for long range benefits for the farmer. What then would be the future trend of agriculture under systems such as fascism, socialism, Hitlerism or communism? It is reasonable to think that these foreign political ideas are repugnant to the vast majority of our people. We are still too much imbued with our traditional love of freedom to surrender it at the behest of demagogos whose political and social philosophy is antithetical to American ideals.

This is especially true of the American farmer who is an incurable individualist. While he is engaged in a business which has a "plant", machinery, electrical equipment, etc., fundamentally the farmer's possessions have a deeper significance than their intrinsic commercial value. Often the farm has been in the family for generations and is regarded primarily as a home, with all of its traditions and deep-rooted associations. That is why, despite the farmer's inability to earn a livelihood, the onerous debts, the long hours and hard labor, he and his family cannot be uprooted from the broad acres they know as home.

One of the most original contributions to the science of political economy in its ability to throw some real light on the problems that particularly affect the farmers of United States is America's Capacity to Produce and America's Capacity to Consume, a work produced by the Brookings Institution of Washington, D.C.¹

According to the findings of the monograph, America's Capacity to Produce, agriculture, in the late 1920's had an unutilized labor force equal to at least 20 per cent of the total, and that part of this unutilized labor force could have been absorbed in agriculture, thereby increasing agricultural output. Data show that with the application of efficiency principles some 500,000 workers could have been taken from agriculture, while permitting a 10 per cent increase in output.²

The basic weakness in the national economy, says the report, is the lack of productive effort because of failure to coordinate the various industries. If this coordination were possible there would be a 19 per cent increase in output of new productive effort.

"State in terms of money, this increased productivity would have approximated 15 billion dollars. Such an increase in the national income would have permitted enlarging

1. Made possible by a grant from the Maurice and Laura Falk Foundation of Pittsburgh, pa. and published in 1933 and 1934.
the budgets of 15 million families to the extent of $1,000 each, adding goods and services to an amount of $765 (on a 1929 price level) to every family having an income of $2,500 or less in that year, producing $603 worth of additional well-being for every family up to the $5,000 level, raising the incomes of 16.4 million families whose incomes were less than $2,000 up to that level, increasing all family incomes below the $3,500 level by 42 per cent, adding $545 to the income of every family of two or more persons, or giving $125 to every man, woman and child in the country.1

The foregoing findings are based on scientific expert research and have been deduced from factual data which have shown that United States has the raw materials, the plant structure, the equipment, and what is most important of all, an ample supply of skilled and semi-skilled labor to produce to the maximum limit of the country's capacity.

On the other hand, in the accompanying monograph, America's Capacity to Consume, the thesis presented, which is based on expert research investigations, brings forth a tremendous array of convincing data that America still has a great potential consuming capacity. Striking dispa-

rities in earning capacity and standards of living among the various classes are in the following figures: 11,653,000 families, in 1929, with incomes of less than $1,500 received a total of about 10 billion dollars. At the other extreme, the 36,000 families having incomes in excess of $75,000 possessed an aggregate income of 9.8 billion dollars. Thus it appears that 0.1 per cent of the families at the top received practically as much as 42 per cent of the families at the bottom of the scale.

The average income, in 1929, of farm families was $1,240, as compared with $3,226 for town and urban families. The income of farm residents disclosed a range of 900 per cent between the lowest and highest state.

Six million families, or more than 21 per cent of the total, had incomes less than $1,000.

About 12 million families, or more than 42 per cent, had incomes less than $1,500.

Unmarried persons, representing 18 per cent of the population, had incomes of less than $500.1

In the low-income classes, expenditures for food ranged from $346 to $382, about $7 per week. The average amount spent for attire by families in the $2,700 class was about three times that spent by families in the $300 class.

The subsistence and poverty groups, including families with incomes under $1,500, and unattached individuals with incomes under $750, constitute 41 per cent of the population.¹

The foregoing figures, only a bare fraction of the voluminous Brookings report, bear eloquent proof that a terrible maldistribution of income is one of the basic causes of our defective national economy. On the one hand, we have vast surpluses piling up constantly which are un-utilized. On the other hand, millions of our people who could consume more food, who could buy more and better wearing apparel, and who could adopt a higher standard of living, are either destitute or on the borderline of poverty. The facts are self-evident and irrefutable. A way must be found to attenuate the enormous incomes at the top of the social scale and diffuse them into the ranks of those classes whose purchasing capacity is at present practically without any value to the nation.

According to the findings of this remarkable Digest, the consuming capacity of the American people, as a whole, can be so accelerated that it can utilize a great proportion of the vast surpluses which at present are demoralizing our national economy.

If the diffusion of a proportionate part of the na-

¹. A Digest of the Studies made by the Brookings Institution, Washington, D.C., p. 44, 47, 1933 and 1934.
tional income among the low-wage groups can be accomplished, agriculture should be one of the principal beneficiaries, for when millions of our underprivileged people are given the opportunity to earn more they, by the same token, will spend more. And they will spend a large share of their increased income for the essential needs raised by farmers, who in their turn will also show an increased purchasing capacity.

The American farmer looks with repugnance on his present status as a political and economic liability. Any plan which would help him earn a livelihood in keeping with American standards - and at the same time enable him to retain his self-respect - is worthy of consideration by the Federal Government. Billions of dollars have been allocated to agriculture in the past decade without materially improving the farmers' financial condition. Possibly the foregoing data, if studied, can help solve the problem.

Notwithstanding the dissemination of radical economic theories, one fact stands out clearly and conclusively: The United States has not reached a stage of Economic development in which it is possible to produce more than the American people as a whole would like to consume.1 Herein is the pith of our economic salvation. Herein is a way

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in which agriculture can improve its status and become a vigorous and prosperous entity, contributing its proportionate share to the well-being of the United States.
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