APPENDIX I.

DEVELOPMENTS IN GRAIN AND COTTON FUTURES WERE SIMILAR

The foregoing material shows clearly that the time contracts and the organized trading in butter and egg futures which succeeded them arose primarily from the efforts of dealers to cope with the problems resulting from accumulation of butter and eggs. Detailed examination of time contracts in grain preceding the beginning of organized trading in grain futures at Chicago reveals generally similar developments. In cotton futures the available evidence indicates a similar pattern of evolution.

In both grain and cotton the beginning of organized trading in futures was preceded by about 20-25 years of time contracts. In grain, time contracts in corn at Chicago were reported in 1851; in cotton, time contracts attracted attention in New York in the same year. In both grain and cotton the evidence points to considerable evolution in the time contracts before they ripened into organized futures trading. After the transition to organized trading was effected, the organized trading in each showed a great deal of development before it became full-fledged. In both grain and cotton there is reason to believe that the developments in time contracts and in organized futures trading were in response to the needs of a rapidly growing commodity market.

Time Contracts In Corn Arose Early At Chicago

Because the marketing of grain at Chicago at the opening of the Illinois and Michigan Canal in 1848 differed greatly from present conditions it may be helpful to sketch the background. There were no railroads at Chicago and all movements of grain into, or from, the city were by wagon or boat. Much of the grain arrived in farmers' wagons or sleighs although

Plank Roads Were More Important Than Railroads to the Chicago of 1850

large quantities also were sent in by wagon by interior merchants who purchased grain from farmer customers or accepted it in trade. Nearly all the grain shipped from Chicago went by boat and large quantities frequently were stored in the city during the fall and winter, pending the opening of navigation on the Great Lakes in the spring.

Transportation was expensive. About 1844, when wheat prices were low, it appeared that the value of wheat was about equal to the cost of hauling it 60 miles. (64) Some wheat was teamed much more than 60 miles to Chicago in a number of years, however, according to reports. Corn was of less value per bushel than wheat and could not be hauled profitably as long distances as could wheat. With the exception of one year when corn was shipped to Ireland to alleviate the effects of the potato famine there, the arrivals of corn at Chicago before 1848 were only slightly in excess of local requirements.

The opening of the Canal in April, 1848 resulted in a great increase in the corn business at Chicago. Farmers responded promptly to the presence of a cash market for corn along the Canal and the Illinois River. The increase is indicated by the data of shipments of

corn from Chicago for the five years 1847-1851. The figures are: (3)

1847	67,315	bushels
1848	550,460	
1849	644,848	
1850	1,262,013	
1851	3,221,317	

Trade comments indicate that the 1850 shipments were reduced by the near failure of the corn crop in the South in 1849 which caused relatively high prices for corn at St. Louis and drew corn away from Chicago. (8)

Dealers invested heavily in facilities to handle the increased quantities of corn. By January, 1851 numerous corn cribs had sprung up along the Canal and the Illinois River. Some of the cribs were large and substantial stocks of corn were accumulating in them. (16) Reports of heavy movement to the cribs continued throughout the winter and by March 5 it was estimated that about 2,000,000 bushels of corn had been accumulated between Chicago and St. Louis. (17)

Probably most of the corn was hauled to dealers' cribs during the winter. Roads were primitive and might be nearly bottomless after the spring break-up. Corn could be hauled conveniently by sleigh. Even if there were not enough snow for sleighing, the roads were solid when frozen.

Dealers needed to hold corn in the cribs to permit it to dry thoroughly before shelling and shipping. Some of the early shipments in 1848 and other years spoiled on their long journey by water. (14) Most of the corn did not reach Chicago until the summer. Average monthly percentages of receipts of corn at Chicago for the five years 1854-1858 were:

January	0.6	May	11.1	September	15.0
February	1.0	June	17.3	October	7.2
March	2.2	July	18.5	November	3.0
April	5.7	August	17.8	December	0.6

Very likely the proportions were much the same in the previous years.

Obviously the erection of cribs, the installing of shellers, and the financing of the stocks of corn must have strained the resources of many country corn dealers. No information was obtained as to the extent to which corn was purchased outright by the dealers in early days. In some instances such dealers may not have set a price upon the corn until they had been able to sell it, but doubtless competition among dealers for corn operated powerfully toward purchase by the dealers. In the mid-1840s some Chicago warehouses advertised that liberal advances would be made upon grain and other farm products accepted for storage. Very likely some local dealers found it necessary, at least to make advances, and perhaps to purchase the corn outright. Probably the proportion purchased tended to increase as the business grew.

Even though a dealer might be making money the need for new capital to expand his operations could well continue pressing. Usually, he would desire to expand at least as rapidly as his competitors and he would be unwilling to turn away the farmers in his trade territory when they desired to sell corn lest he lose them permanently as customers.

In such circumstances it is not surprising that some dealers should enter into time contracts with Chicago buyers. The general practice was thus described by a former member of the Board of Trade:

> "In the early days when the canal was constructed, men wanted to buy corn, crib it in the country, and hold it till spring when the canal opened. They used to come to Chicago and hunt around for some man who would buy the corn for May; then the commission man would advance the money for the corn. This enabled the man living in the country to buy the corn of the

> farmers, crib it, and hold it until navigation opened . . .". (1)

The first time contract found in Chicago grain market reports as part of a continuing process was in corn on March 13, 1851. It called for the delivery of 3,000 bushels of corn in June at a price 1 cent per bushel under the quotation for corn that day. (18) Four days later, other contracts calling for the delivery of corn in June were reported, quantities not stated. On April 18, when the Canal was under repair, the market report read in part, "Considerable doing in corn and we note sales of 10,000 bushels, deliverable after the opening of the canal . . ." (20) On May 3 contracts for 10,000 bushels of corn afloat were noted at 30 cents per bushel, to be delivered between the 15th and the 25th of June. (21)

It is recognized that earlier contracts forming a continuous series may have been made but not reported in the market reports of the daily paper where the contracts noted above were found. Isolated references to earlier contracts were found. In 1845 a market comment was, "We learn that one large lot (of wheat) changed hands, deliverable in the spring . . .". (10) Four days later a Buffalo dispatch stated that a New York dealer was willing to contract for wheat for spring delivery. These reports, however, seemed to be isolated. Another contract in October, 1850, when corn was 40-42 cents per bushel, called for the delivery of 30,000 bushels of corn the following June at 28 cents per bushel. (15)

Time contracts in corn continued in 1852 but were not mentioned in as great detail as in 1851. Late in February a weekly review noted, ". . . But little has

> been done in corn for present delivery, owing to the bareness of the market. Contracts for future delivery have been sparingly made at about 45 cents, half cash." (11)

In 1852, also, time contracts in wheat were noted in Chicago market reports in that paper. On March 2 a contract for 10,000 bushels of spring wheat for delivery on board vessel between April 1 and 15, payment on delivery was reported. On March 6 the same paper mentioned several contracts for wheat to be delivered at the opening of navigation. In one the terms "cash"; in another they were "half cash". On March 10 several time contracts for the delivery of wheat in April were reported.

Why did the time contracts in wheat appear later than those in corn although wheat marketing developed first? Presumably because the problems of accumulation were less acute in wheat than in corn in the early 1850s. Shipments of wheat from Chicago fell off from the 1848 and 1849 levels and did not equal the 1848 shipments for four years; in fact, for the years 1850-56 inclusive shipments of corn exceeded those of wheat. While an interior trade in wheat was developing in the Chicago area, it does not appear that interior wheat buyers had as pressing problems of storage, financing, and risk assumption as did corn buyers.

The Cash Corn Market in 1856

It is true that frequently large quantities of wheat were accumulated at Chicago before the opening of navigation on the Great Lakes, especially when most wheat was teamed to the city. The spread of the railroads west of Chicago, beginning in 1850, changed the situation so rapidly that by 1855 it was estimated that only about 3 percent of the receipts of wheat came by team but before 1850 nearly all of it was teamed. With favorable weather large quantities of wheat could be teamed to Chicago after harvest before the close of navigation but a wet autumn would cut down the movement and would tend to increase the quantity held in Chicago. Wheat could be hauled more conveniently by sleigh during the winter than it could be transported by wagon for some time after the spring "break-up" of the prairie roads. This and other factors contributed to sizeable stocks of wheat at Chicago before the opening of navigation.

Stocks of wheat at Chicago about March 1, 1846 were estimated by the Chicago Journal at 682,000 bushels. About half was owned by Eastern interests, about a tenth by farmers, and the remainder by Chicago dealers. As interior grain buyers made their appearance, they doubtless held part of such stocks at Chicago. Market comments from time to time noted that part of the arrivals was being stored for the account of the shippers. Some of the warehouses arranged for advances on the grain stored and very likely it was easier to finance the grain held in a Chicago warehouse than the corn held in a dealer's crib in the country.

Railroad shipments of wheat and corn eastward from Chicago exerted little influence upon the early development of time contracts in those grains. Not until about the beginning of 1853 was rail communication opened from Toledo. Even by 1855 only about 1 percent of the corn shipped from Chicago went by rail and while nearly 10 percent of the wheat shipped

went by rail that proportion included short hauls to mills in nearby States.

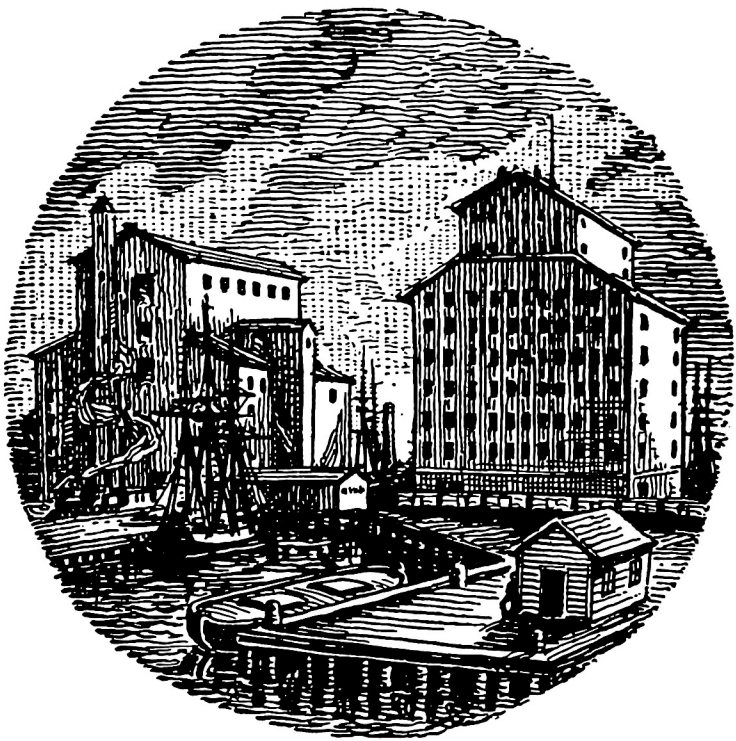
It appears that the time contracts in corn and in wheat were considered as distinct from the sales made "to arrive" which ordinarily referred to grain shipped or about to be shipped. "To arrive" sales of corn were mentioned in market reports almost immediately after the opening of the Illinois and Michigan Canal in April, 1848. No time limits were noted in any of the early "to arrive" reports, perhaps because it was expected that the corn would be brought in as quickly as practicable. After the time contracts had been reported they did not displace the "to arrive" sales which continued to be mentioned. Both contracts contained an element of futurity but in the "to arrive" contracts it related primarily to the uncertainly of the time required in shipment; in the time contracts to the time when shipment would be made.

Time contracts were employed also in pork packing which then was a highly seasonal business. In April, 1851 it was noted that, "Contracts have been entered into for pork to be delivered at Terre Haute next fall at $3.50 per 100 lbs." (19) It appears also that contracting in advance for the delivery of hogs at specific prices had become common at Cincinnati by 1851. (62)

Use of time contracts in grain marketing in the Mid-West increased rapidly but irregularly during the 1850s. Their use was greatly stimulated by the activity in the grain trade which resulted from the Crimean War. In December, 1855 it was reported that, ". . . the corn which was expected to pass this port by June 15 had probably all changed hands once or twice by prospective contracts. . . .". The following year, however, the same observer noted that there was little disposition to look forward. (12) Very likely the lack of aggresiveness in 1856 represented the customary let-down after a period of great activity.

Time contracts were employed extensively in grain marketing in other cities, particularly at New York, by approximately 1855. It is possible that their use in some of the older grain markets may have begun earlier than at Chicago.

After 1856 it appears that the use of time contracts



Two Chicago Terminal Elevators of 1860

in grain marketing increased at a moderate rate for several years. (4) They then received a great stimulus from the activity in the grain trade which resulted from the Civil War. Their growth and development

continued until they ripened into organized trading in grain futures, perhaps early in the 1870s.

This finding as to the beginnings of grain futures at Chicago differs from the account given in Taylor's "History Of The Board of Trade" which attributes them to "arrive" contracts. That statement reads:

> ". . . The trade in futures began in a perfectly natural way. The storage capacity of Chicago was limited. It frequently happened that a northeast wind brought in a large fleet of vessels when there was little grain at Chicago, but plenty of corn and oats in storehouses along the line of the Canal or Illinois River, and in later years along the railroads. Under these circumstances it was a convenience to the vessel owner, and to the Chicago grain merchant as well, if some holder of grain in the country, or some Chicago agent of such country owner, would agree to deliver it in Chicago within a specified time, i.e., 'to arrive within 5 days' or "to arrive within 10 days'. . .". (65)

The account is plausible and has been generally accepted in the absence of evidence to the contrary. It would be inferred that the "to arrive" contracts developed at Chicago because of the conditions noted. Such contracts, however, were in use at Buffalo in 1842-43. (13) Probably they were extended to Chicago as soon as there was use for them there. It does not appear that they were related directly to grain futures.

Time Contracts Showed Evolution

While little direct evidence is at hand concerning the early time contracts in corn and wheat, it is reasonable to conclude that they were informal and in keeping with the crude nature of early grain marketing. Only the quantity, price, and time of delivery were specified in the early time contracts reported although in some the proportion of the price paid in cash was given. They may have been verbal contracts although

a memorandum may have been kept by both parties. The contracts were personal and each party relied principally upon the integrity of the other for fulfillment of the contract.

In a few years some of the contracts, at least, were written. Doubtless a number of them were drawn with a view to making them enforceable at law. A written contract for the sale of corn was the subject of a lawsuit in Stark Circuit Court (Illinois) in April, 1852. (53) Another lawsuit, Porter v. Viets, showed that,

> "... On the third of April, 1857, ... Viets entered into a contract in writing with the plaintiffs, by which he sold to them 15,000 bushels of corn at 48 cents a bushel, delivered free on board during the last half of June, and both parties executed the contract. ..." (61)

Nothing was stated as to quality of the grain in the reports of the early contracts. Here it should be borne in mind that time contracts arose several years before the Chicago Board of Trade first established grades for grains in 1856. Presumably the contracts in the Chicago territory after that time tended to provide for Board of Trade grades, including the developments in those grades.

Although the evolution of time contracts in grain marketing cannot be traced in detail from the material at hand, it is known that well before organized trading in grain futures began a high degree of standardization in the time contracts had been attained. Units were in thousands of bushels, contracts were generally standardized in written form, most of the trading was for delivery in specified calendar months, and the contracts had lost much of their personal nature and passed from hand to hand.

Control By Board Of Trade Began In 1865

As was to be the case about half a century later in the Chicago Butter and Egg Board, the leaders of the

Chicago Board of Trade were slow to extend official recognition to the developing time contracts. One view was, ". . . The conservative men who controlled affairs at the time, however, seemed to think there was too much of the element of chance in this method of trade. . . ". (66)

Another partial explanation may be that the strongly financed firms who were influential in the Board tended to look askance at the traders with limited capital who were active in the trading in time contracts.

It should be borne in mind that the Board of Trade had comparatively little influence up to about 1856 and that it developed very rapidly in the next few years. Organized in 1848 on a general basis, it struggled for existence for several years and among other things it attempted to stimulate attendance by offering a free lunch to members. In 1856 it gave evidence of increased vitality by adopting grades and standards for grain. In 1858 the first call was made for the restriction of the business transacted on the exchange to members of the Board. A charter dated March 7, 1859 was obtained from the State of Illinois. Among other provisions it conferred broad powers upon the Board's Committee of Arbitration and Committee of Appeals and authorized the Board to appoint inspectors, etc., whose certificates should be binding upon the membership. Obviously, there were many matters to occupy the attention of the leaders of the Board.

The first rule of the Board dealing specifically with time contracts was adopted in May, 1865. It provided for the deposit of margins on time contracts, not to exceed 10 percent of the value of the commodity specified in the contracts, on the demand of either party. This rule was much like the first one adopted in connection with time contracts by the Chicago Butter and Egg Board about 45 years later, approximately

10 years before the beginning of organized trading in butter and egg futures.

The 1865 rule of the Board of Trade, however, had been preceded by one applying to all contracts which had been adopted March 27, 1863. It read:

> "Any member of this association making contracts, either written or verbal, and failing to comply with the terms of such contract shall, upon representation of an aggrieved member to the Board of Directors, accompanied by satisfactory evidence of the facts, be suspended by them from all privileges of membership in the Association until such contract is equitably or satisfactorily arranged and settled. And it shall be the duty of the Board of Directors to cause to be publicly announced to the Association the suspension or restoration of any member suspended under this rule." (2)

From the adoption of the 1865 rule it may be inferred that the effects of the 1863 rule were inadequate with respect to time contracts.

When the General Rules of the Board of Trade were adopted on October 13, 1865 the May, 1865 rule on time contracts was incorporated in them. At that time, two other rules dealing with time contracts were adopted, one setting forth the procedure to be followed in the event of failure to deliver and the other providing some standardization of delivery upon time contracts and method of payment.

These initial rules of 1865 concerning time contracts on the Chicago Board of Trade presently were followed by others from time to time as the Board extended its control over the trading in time contracts. Evidently there was resistance on the part of the more conservative grain handlers to the increasing use of time contracts and probably a great deal of inertia had to be overcome before adequate rules could be obtained. Furthermore, the supporters of time contracts, and of organized trading, were blazing trails in unexplored

territory and could deal with new conditions only as they developed.

It appears that the transition from trading in time contracts to organized trading in grain futures was effected gradually. Without a detailed study of the rules involved and their enforcement it is difficult to determine the time of the transition but perhaps a fair estimate would be between 1870 and 1875.

Organized Trading Underwent Evolution.

Available evidence indicates that organized trading in grain futures developed greatly from comparatively crude and simple beginnings in the early 1870s. One element in its evolution was the rise of hedging to reduce price risks on an accumulation of a commodity while retaining possession of the commodity for merchandising or processing. Evidently hedging of grain did not become common for some time following the beginning of organized trading in grain futures. Basing his opinion largely on practices described in a lawsuit and in testimony before a committee of the New York Senate about 1883, Hoffman suggests that hedging of corn on the part of country grain dealers became common some time in the 1870s and that the hedging of wheat was common in 1880. (46) An earlier observer, however, asserted that about 1876 everyone trading in wheat futures at Chicago preferred the buying side with the result that futures were high relative to cash wheat. (45) Some color is given this assertion by a reported conversation between Mr. Pillsbury of Pillsbury Mills and Mr. F. H. Peavy who had built up the great line elevator company. Mr. Pillsbury recounted in 1898 that some years previously Mr. Peavy had told him that all he had to do was to fill up his houses with wheat, sell "May" as a hedge, and he was assured of several cents a bushel profit. Mr. Pillsbury replied that the day would come when that practice would not be possible, for no business was assured of a profit without effort. (See 47).

Futures prices more than a carrying charge higher than cash grain prices do not suggest that hedging was widespread. On this basis it appears that hedging in wheat futures may not have become general until a little after 1880.

More information concerning the development of speculation also would be helpful in appraising the development of organized trading. Speculators in grain from outside the grain trade appeared at Chicago at times in the 1840s, according to market reports, and there is reason to believe that for a considerable period there were numerous "investment buyers" who bought wheat after harvest in anticipation of an advance in price later in the season. Such buyers purchased physical wheat and either stored it or arranged for its storage. Presumably some such buyers dealt through brokers in their purchases and subsequent sales, substantially as was the case in butter and eggs before organized trading in butter and egg futures. (See pp. 28-9) With the development of the system of grain warehousing, speculation in grain tended to shift to warehouse receipts, facilitating speculation by persons outside the grain business. Then the development of organized trading in grain futures provided a more convenient and economical means of speculation in grain. The convenience of speculation (and hedging) was increased by the rise of futures commission merchants with numerous offices to solicit business. It is possible that much of the earlier opposition at interior points to organized trading in grain futures, ostensibly on other grounds, traced to local brokers and dealers who had lost the business of their "investment buyers".

Development Of Cotton Futures Was Generally Similar

The evolution of time contracts and organized trading in cotton futures resembles closely that of grain or of butter and eggs in its broad aspects. Although

less detailed information is presented concerning it, the pattern of the rise and development of time contracts in cotton, the inauguration of organized futures trading, and the further development of that trading are clearly apparent.

Because the cotton trade in the United States was closely connected with that of England over a period long before the beginning of organized trading in cotton futures, it was to be expected that cotton marketing developments in one country would be reflected in the other. Accordingly, it is convenient to consider the time contracts and the organized trading in cotton futures in both countries.

Time contracts were reported in New York in 1851, nearly 20 years before the organization of the New York Cotton Exchange. (34) At Liverpool, time contracts were mentioned as early as about 1857 and their volume increased greatly during the Civil War in the United States. (35) (44) While a detailed analysis of the evolution of time contracts in cotton was not attempted, the limited evidence conveniently available points to considerable development of these contracts before they ripened into organized trading in cotton futures. Writing in 1925, Cox suggested about 1860 as the time of the origin of trading in future contracts although he was careful to state that professional speculation in cotton had begun earlier, in Liverpool in the early part of the 18th century. He noted also that

> ". . . The contracts for forward delivery of cotton soon came to be traded in from one buyer to another, probably passing through several hands before the time for actual delivery. The increased negotiability made necessary the uniform usage of terms in the contract and uniform methods of settlement. Moreover, they were no longer made to cover specific shipments and were filled from any cotton available." (25)

Organized trading in cotton futures at New York evidently began early in the 1870s. The New York Cotton Exchange was formed on a voluntary basis as an association of merchants and brokers in the summer of 1870 and received a charter from the State of New York, passed April 8, 1871. Writing in 1872, Donnell commented that the business was entirely new and almost every rule was experimental. (32)

The 1872 rules of the Exchange indicate organized trading in futures. They provided for a standardized contract with margins to be deposited and maintained at the request of either party to the contract, for transfer or cancellation of contracts, for definite grades deliverable on contracts, and for standardized procedure in delivery and in payments. In addition, a number of other rules governed various phases of the trading.

Presumably organized trading in cotton futures at New Orleans began a little later than at New York. The New Orleans Cotton Exchange was organized in 1871 but trading in time contracts on it was not active for nearly a decade. (5) (6)

Organized trading in cotton futures at Liverpool probably began later than at New York. This is suggested by Dumbell who indicated that action could be taken more promptly at New York becaues it was not a great spot market for cotton, nor was it bound by a thick accretion of custom as was Liverpool. His observation is in accord with the scanty information readily available on this point. While the Liverpool Brokers Association adopted certain regulations in 1869 dealing with time contracts the first provision for margin deposits was made in 1871. (36) Very likely the transition from time contracts to organized trading in cotton futures at Liverpool occurred gradually a few years after 1871.

There is reason to believe that organized trading in cotton futures, like that in grain and in butter and

eggs, developed to a considerable extent after its beginning. Hedging presumably made its appearance some time following the inception of organized trading, finally becoming widespread and highly important to cotton marketing. Speculation developed also, being powerfully affected by hedging requirements and by the convenience and economy of speculating in futures rather than in actual cotton or even in warehouse receipts. It is reasonable to conclude that other functions of organized trading in cotton futures also developed gradually in response to market needs and that the organized trading was of much greater service in the marketing of cotton after 20 years of development than at its beginning.

Additional research in the development of grain and cotton futures might well disclose other points of resemblance to the development of butter and egg futures. For example, Dumbell relates that a concerted attack upon the 'objectionable gambling practices' of time contracts in cotton was launched by merchants and spinners at Liverpool in 1870. "The attack was

> directed against contracts for future delivery . . . on the ground that little or no capital was required and that people who had nothing to lose were induced to engage in them. The critics gained one point at least, namely a common agreement to make mutual deposits. The agreement was voluntary in 1870 but was formally recognized by the Cotton Brokers' Association's rules in 1871. . .". (36)

This opposition in cotton was much like the opposition to organized trading in butter and egg futures in 1922 (p. 42).

The evidence presented, however, is believed adequate to warrant the conclusion that trading in grain and cotton futures reveals the same general pattern in development as did butter and egg futures approx-

imately half a century later, both in the unorganized and in the organized form. The degree of correspondence between the development of grain futures and of cotton futures was too close for co-incidence but no indications were found that the futures trading in either grain or cotton influenced that in the other. The most reasonable explanation of the similarity in development is that in each commodity it was in response to generally similar changes in marketing conditions and to similar needs.

Such a conclusion is consistent with the similar pattern of development shown by butter and egg futures roughly fifty years later which was shown to result principally from developments in butter and egg marketing, especially from the accumulation of butter and eggs by wholesale dealers. In each instance the pattern was much the same. First came the rise of time contracts. Then there was a period of development of those contracts in various ways and finally the time contracts matured into the early stages of organized trading in futures. Following that there was a period of development in the organized trading, in hedging, in speculation, and in other elements, largely in response to the growth of the respective commodity markets in size and complexity, until the organized trading attained comparative maturity.

APPENDIX II.

EGGS IN COLD STORAGE ON JULY 1, 1896 AND 1895

From: New York Produce Review II:17, July 16, 1896

"Late in June New York Produce Review sent letters of inquiry to a large number of correspondents in all sections of the country where storage facilities for eggs were known to be located, asking for estimates of the quantity of limed and refrigerator eggs put away in the various localities, compared with the quantity held last year on July 1.

"The letters were addressed to public cold storage houses and to egg merchants, and of the total number addressed a very large proportion returned estimates or positive statements." This was the first attempt of this paper . . . .

"We have secured more than one estimate in most of the larger centers; where these have been at variance we have taken the most reliable whenever we have had opportunity to judge; otherwise we have tabled the average of the estimates."

The result of the investigation is tabulated as follows:

	1896	1895
NEW YORK STATE		
New York City	115,000	130,000
Nine other reports including Buffalo, Little Falls, and Syracuse	114,500	71,700
NEW JERSEY		
One report	50,000	30,000
PENNSYLVANIA		
Philadelphia	110,000	125,000
Five other reports including So. Bethlehem, Pittsburgh, Pottstown, and Reading	108,097	127,926

MASSACHUSETTS		
Boston	77,300	90,500
Two other cities	23,000	10,000
RHODE ISLAND		
One report	36,000	48,000
CONNECTICUT		
Average of two reports, one city	37,500	42,500
OHIO		
Thirteen reports, including Cleveland, Tiffin, and Cincinnati	102,850	117,310
INDIANA		
Three reports	5,000	6,500
ILLINOIS		
Chicago (average of reports)	335,000	370,000
Four other reports, including Elgin	34,300	30,100
MICHIGAN		
Seventeen reports, including Detroit, Richmond, and Williamston	30,400	39,400
MINNESOTA		
Seven reports including Minneapolis and St. Paul	44,800	24,400
IOWA		
Thirteen reports, including Sioux City, Des Moines, Burlington, Waterloo, and Nevada	164,550	199,800
WISCONSIN		
Nine reports, including Reedsburg, Johnson's Creek, and Richland Center	29,900	27,900
MISSOURI		
Two reports	14,800	15,000
KANSAS		
Five reports	4,500	4,700
NEBRASKA		
Four reports including Omaha, Hastings, and Lincoln	15,400	17,300

SCATTERING		
One report each from W. Va., La., Tenn., and D. C.	6,650	6,150
Total	1,495,547	1,534,186

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